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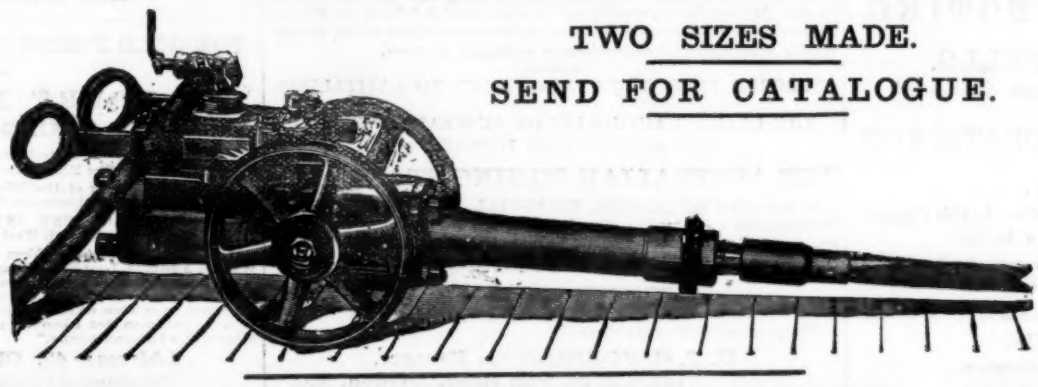

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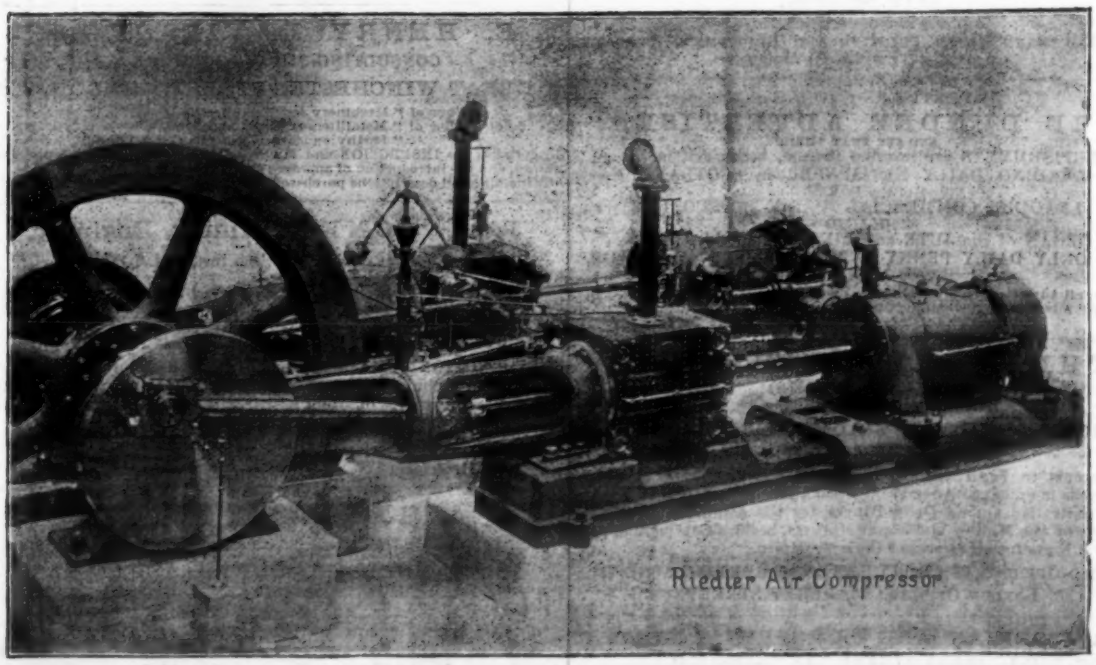

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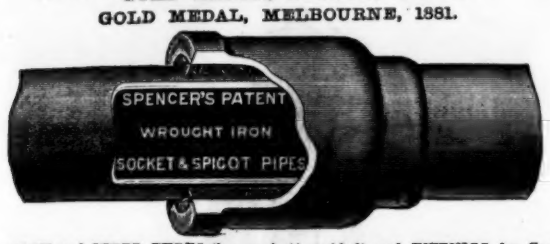

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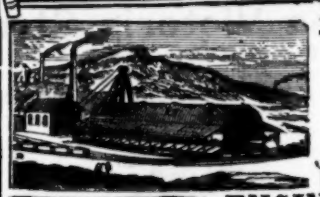

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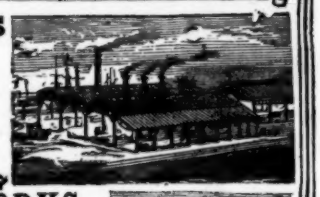

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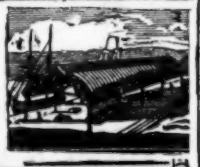

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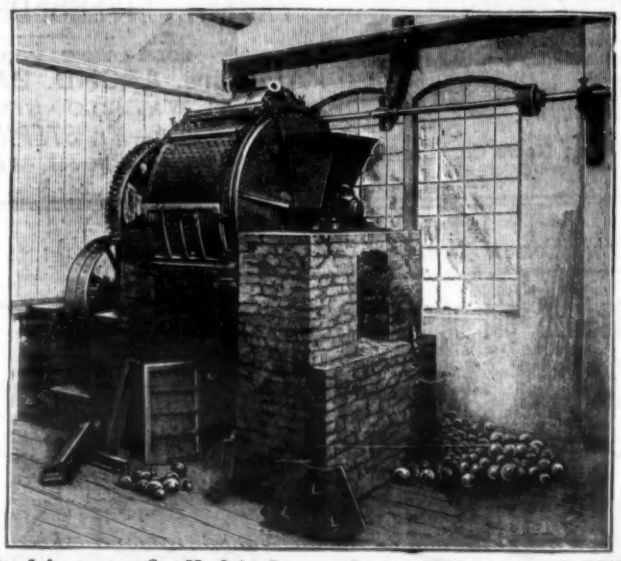

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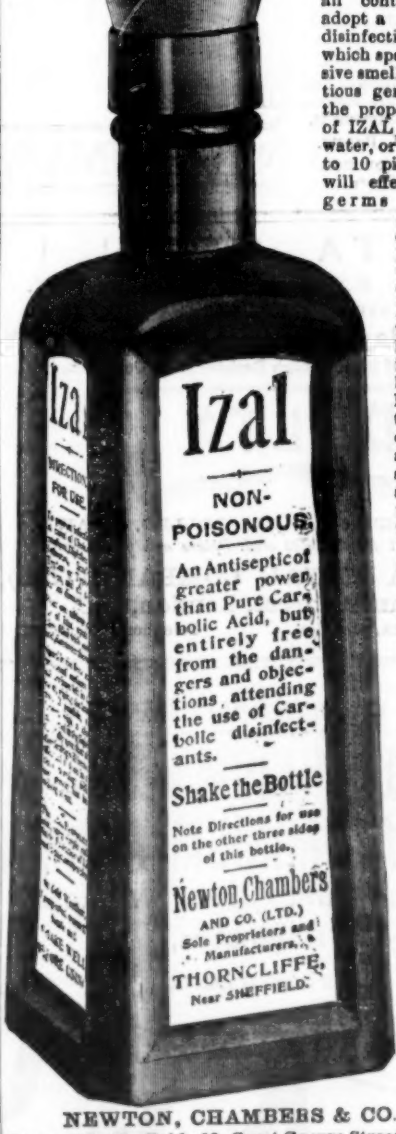
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"Herberton Advertiser" Office, Herberton, September, 1892.

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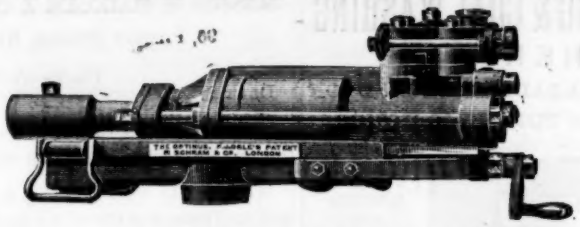

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SIRS,—Elliman's Royal Embrocation is used in my stables; I think it very useful.
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Master of the Belvoir Hounds.

From the Earl of Harrington.
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SIRS,—Elliman's Royal Embrocation is used in my stables, and I consider it the best that I can obtain. HARRINGTON.
Master of the South Wilts Hounds.

From Major M. J. Balfe,
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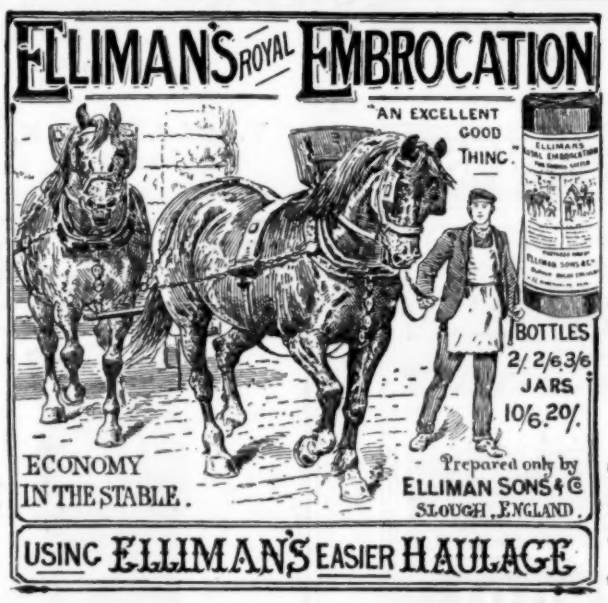
M. J. BALFE.
Master of the Roscommon County Staghounds.



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Master of the Berwickshire Hounds

From R. Burdon Sanderson, Esq., Warren House, Belford.
July 10th, 1892.

SIRS,—Elliman's Royal Embrocation is used in my stables, and I consider it very useful.
R. BURDON SANDERSON.
Master of Percy Foxhounds.

From Wm. J. Buckley, Esq., Penyfai, Llanelly.
July 16th, 1892.

DEAR SIRS,—I have much pleasure in recommending your Royal Embrocation. I always keep a stock in my stables and kennels. My farm bailiff has also found it of much value among my herd.
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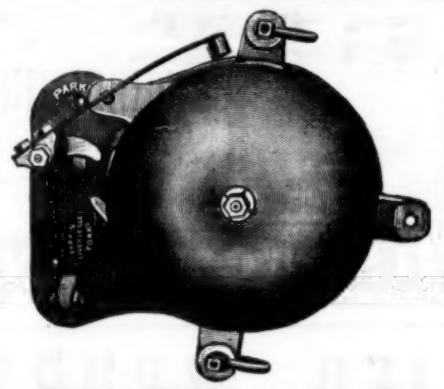

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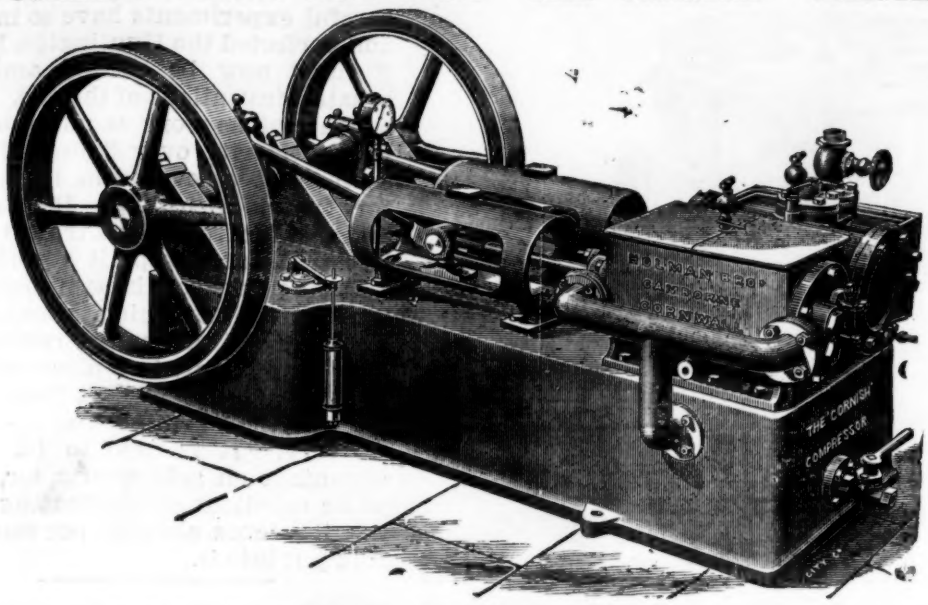

RECORD OF WORK DONE

At Botallack Mine, St. Just, Cornwall, **TWELVE MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** drove, sunk, and rose **288 FATHOMS** in **12 MONTHS**, equal to five times the Speed of Hand Labour.

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Jeffrey Machines for Undercutting Coal,

WORKED EITHER BY ELECTRICITY OR COMPRESSED AIR.

OVER 500 IN USE.

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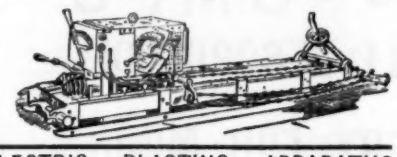

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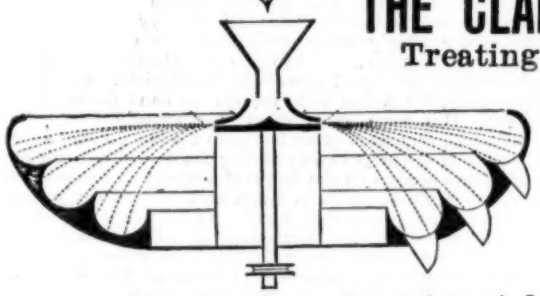

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Homogeneous substances, such as Emery, Glass, Sand, Sulphur, Black Lead, &c., graded according to size in one operation.

Terms for Experimental Concentration, and for Supply of Machines on Application.

NEW PATENTS.

LIST of APPLICATIONS for New Patents relating to Mining Metallurgical, Engineering, Railway and kindred matters, specially compiled from official sources for the "Mining Journal" by Messrs. Rayner and Company, Patent Agents, 27, Chancery Lane, London, W.C., who will forward all information regarding them free on application.

14548 Benjamin Howarth Thwaite, 95, Finsbury Pavement, London.—Improvements in tubulous steam generators.—July 30.
14573 John Handsley Dales, 45, Lofthouse Place, Leeds.—Improvements in steam and other fluid pressure engines.—July 30.
14588 John Roberts, Liverpool.—Improvements in rotary engines, air compressors, or pumps.—July 30.
14704 William Walker Fyfe, London.—Improvements in and connected with furnaces and means for calcining and treating complex ores.—July 30.
14755 Theodor Langer, London.—Improved movable mineral grate.—July 30.
14790 George Paton Gardner, 70, Wellington Street, Glasgow.—Improvements in removing or preventing scales or incrustation in steam boilers.—August 2.
14796 John Mitchell, Birmingham.—Improved apparatus for riddling or sifting cinders or other materials or substances.—August 2.
14818 Edward Jones, 15, St. James's Road, Sheffield.—Improvements in apparatus and appliances for caging, raising, discharging, and loading minerals and the like.—August 2.
14833 Samuel Robinson, London.—Improvements in steam and other fluid pressure engines.—August 2.
14865 Moriz Pollak, 10 Untere Georgestrasse, Leipsig-Gohlis, Germany.—Furnace.—August 2.
14940 Marie Edmond Philibert Chaboche, 323, High Holborn, London.—Improvements in or relating to rotary engines.—August 3.
14954 John Stewart McArthur, 57, St. Vincent Street, Glasgow.—Improvements in apparatus for obtaining cyanides.—August 4.
14972 William Ashton, 4, Corporation Street, Manchester.—Improvements in centrifugal governors for controlling and regulating the speed of motive power engines.—August 4.
15002 William Ackroyd and William Best, London.—Improvements in or connected with apparatus for lighting miners' safety lamps.—August 4.
15008 Joseph Moore and Thomas Spencer, 166, Fleet Street, London.—An improvement in or relating to pneumatic type writing machines.—August 4.
15011 Charles Stroud, Penn Fields, Wolverhampton.—The improvement in the manufacture of coal vases and linings.—August 4.

SPECIFICATIONS PUBLISHED.

13,381, Furneaux and Butler, reversing and controlling mechanism for engines, 1893; 13,683, Hoblyn, steam generators, 1893; 13,769, Thomlinson, treating ores, 1893; 14,097, Hall, steam boilers, 1893; 16,961, Brock and Weir, steam generators, 1893; 5891, Barns and Hillsdon, miners' safety lamp, 1894.

The above specifications published may be had of Messrs. Rayner and Company, 27, Chancery Lane, London, at 10d. each including postage.

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FOR MINE, QUARRY, RAILWAY, AND ENGINEERING WORK, STORES, &c.

**** We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.*

The date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the addresses given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

HOME CONTRACTS.

Boiler, August 20 (*Downpatrick, Ireland*).—For supplying and fitting boiler and low-pressure service of pipes, for the purpose of heating Infirmary Street Presbyterian Church, Downpatick, according to plans and specifications, which may be seen at the office of Mr. John W. Basset, architect, Downpatrick.

Pumping Station, August 20 (*Glasgow*).—For erection of a hydraulic pumping station at Cessnock Dock, Glasgow, for the trustees of the Clyde Navigation. Plans, sections, and specifications may be seen on and after 8th inst. at the office of Messrs. John Burnet, Son, and Campbell, architects, 167, St. Vincent Street, from whom schedules can be obtained on payment of £1, which will be returned on receipt of a *bona fide* tender.

Bridge, August 22 (*Edinburgh*).—For work to be done in taking down the present stone bridge over the Union Canal at the south end of Eaman Place, North Merchiston, and to build a new steel girder bridge with stone abutements, wing walls, and other relative works. Plans and specification to be seen at the office of Mr. Proudfoot, City Road Surveyor, City Chambers.

Rails, August 21 (*London, E.C.*).—The Secretary of State for India in Council is prepared to receive tenders to supply (1) steel rails, (2) steel fishplates, (3) steel fishbolts, (4) crossings and switches. The conditions of contract may be obtained on application to the Director-General of Stores, India Office, Whitehall, S.W.

Axles, August 22 (*London, E.C.*).—For the supply and delivery of steel axles for carriages and wagons, for the East Indian Railway Company, as per specification and drawing to be seen at the company's offices. Tenders are to be sent to Mr. A. P. Dunstan, secretary, Nicholas Lane, London, E.C., marked "Tender for Axles for Carriages and Wagons," not later than one p.m. on the 22nd inst.

Reservoir, August 23-30 (*Duncon*).—For constructing a reservoir, filters and tanks, and providing and laying cast-iron and fire-clay pipes, for the Cowal District Committee of the County Council of Argyllshire. Plans and specifications to be obtained at the offices of Messrs. J. and A. Leslie and Reid, C.A., 72a, George Street, Edinburgh on the payment of £1.

Sinking Well, August 25 (*Worksop*).—For sinking a well, 160 feet by 9 feet, and containing a 18 inch by 12 inch borehole, to 360 feet, for the Worksop Waterworks Company. Plans, sections, and specifications, and other particulars may be obtained at the office of the engineer, Mr. John Allsopp, A.M.I.C.E., Worksop. Sealed tenders, endorsed "Tenders for Well," to be sent to Mr. R. Dowse, secretary, by 25th inst.

OUR INQUIRY COLUMN.

TO CORRESPONDENTS.

Correspondents will please take note that all communications will in future be answered in this column and not through the medium of the post. All questions and replies should be accompanied by the name and address of the writer.

REPLIES.

N. W.—We do not care to recommend such investments.

K. S.—We think you have been dealt with very fairly.

G. H. D.—You might hold them until you see a chance of making a fair profit.

READER.—They are not likely to recover to that price.

D. H.—The shares should be held.

W. B. R.—All are good. New Primrose, Jumpers, Henry Nourse, Langlaagte Royal, and Nundydroog are likely to advance. Ferreira pays well, but the shares are hardly likely to go higher, as the Deep Levels are to be purchased and the capital is to be doubled.

STEEL V. IRON.—Considerable interest has been aroused of late in scientific and engineering circles as to the comparative merits of steel and iron for such purposes as bridges, girders, and steam boilers. It goes without saying that for tensile strength and other qualities, soft steel stands the test much better than the iron formerly used for these purposes, and this has so impressed the minds of engineers that for some years past they have been generally specifying steel instead of even best iron. But the initial test is, it now appears, not everything. It is proved by experience that the steel hitherto used is much more liable to corrode than iron, and several bridges erected 10 or 12 years ago on one of the leading railways will shortly have to be removed owing to the rapid oxidation which has taken place. Another case in point has also been recorded. Some dozen years ago a north country manufacturer put down 10 steam boilers, five of iron and five of steel. The boilers are adjacent, and fed with the same fuel and the same water. The steel boilers are greatly corroded, but the iron ones are perfectly sound. The fact is thus established (so far as these experiences go) that while steel has the greater fibre power, iron has the most freedom from oxidation, and is, therefore, in the long run much more endurable for the purposes indicated.—*Ryland's.*

DAVEY, PAXMAN & Co.,

Engineers, Colchester.

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AND ALL DESCRIPTION OF MACHINERY FOR MINING.

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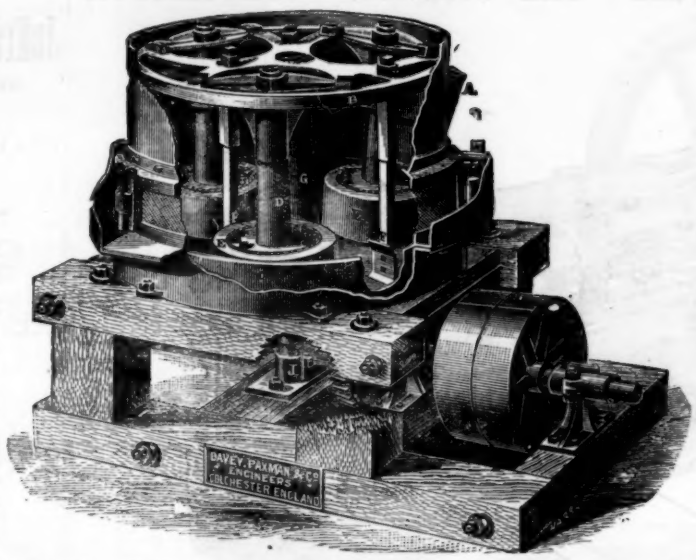
Telegraphic Address:

"PAXMAN, COLCHESTER."



Huntington's Patent Centrifugal Roller Quartz Mill for fine pulverizing in Concentration.

LONDON OFFICE
78 [late 139], QUEEN VICTORIA STREET.

D. P. & Co., after a great number of careful experiments have so improved and perfected the Huntington Mill that it must now be classed among the greatest inventions of the age. The excellence of its work is undoubted, and its superiority over Stamp Mills will soon cause a revolution in its favour for Quartz Crushing. Its first cost, and cost for freight and transit is much less than for stamps, it absorbs about half the power for the same output, and is continually crushing. It can be fixed and started in 12 hours, requiring for foundations only two pieces of timber 12 in. by 12 in. by 14 feet long, is more reliable than stamps, and has perfect delivery. It is used to its greatest advantage on gold quartz, for, because of its excellent amalgamating properties, it catches about 75 per cent. of the gold put into it.

Full Particulars on Application to

DAVEY, PAXMAN & Co.,
Colchester.

NOTES ON THE PHILIPPINE ISLANDS.

By FRANK KARUTH, F.R.G.S.

IV.

COPPER is found in many parts of the Philippines, and cupreous pyrites is not unfrequently met with accompanying quartz veins, but in such small quantities as to exclude all commercial value. In the central mountain ranges of Luzon, however, between Cagayan and Ilocos, considerable deposits of copper ore are distributed, and have been worked by a tribe of natives, called Igorrotes, long before the advent of the Spaniards. These Igorrotes are a very peculiar race of a much more distinct Mongolian type than the Tagals. They resemble the Indians of the Islands on the eastern coast of the Pacific, who seem quite distinct from the Indians on the mainland, for they are lighter in colour, have obliquely placed eyes, like the Igorrotes, and the natural explanation is, that they owe their Mongolian features to Japanese or Chinese ancestors, whose vessels were driven by stress of weather on the distant coasts; thus, the south-east monsoon would drive them eastwards, whilst the south-west monsoon would land them in Luzon. Anyhow, in Luzon they have impressed their individuality on the Igorrotes, and taught them the smelting of copper from such difficult ores even as cupreous silicate (chrysocolla). They also taught them the working of the metal, of which they make various kinds of vessels and implements. The Spanish engineer, Hernandez, in the "Revista Minera," gives a long account of their craft, which they still practise in their mountain fastnesses. They obtain the ore in excavations, which they make with the aid of wood fires, thus softening the rocks. They separate the ore according to quality, and roast the poorer repeatedly before smelting it. Their furnace is a cylindrical hole, walled with clay, about 12 inches deep, and 8 inches in diameter, and they use blowers of bamboo worked with plungers to produce the requisite draught.

A Spanish company was established to work these deposits on a large scale. Furnaces were built, machinery was put up, but what the natives could accomplish, the European metallurgists failed to do, although in those times copper was worth over £100 per ton. The absence of roads told, and the enterprise eventually collapsed.

A copper mine was also worked in the neighbourhood of Manila, 20 or 30 years ago, and great expectations were entertained of its success. But it also came to nothing, and if rumour speaks true, the foreign engineer-in-charge may have had something to do with the collapse of that undertaking. He was supposed to be a qualified miner and smelter, but turned out to be a dissolute stonemason, whose colonial career was cut short by death after delirium tremens.

A very peculiar deposit of native copper occurs in the neighbourhood of one of the Philippine Mineral Syndicate's concessions. The metal is found in a bed of gravel, in little nuggets of a globular or pear-shaped form. It assays over 90 per cent. of copper, with a not inconsiderable admixture of gold and silver. The extent of the deposit and its commercial value have not been determined as yet, and its origin is rather puzzling. May it not be the product of a natural smelting process, for which the proximity of eruptive rocks has furnished the thermal conditions? The necessary fluxes were close at hand, and supposing a cupreous deposit with such fluxes near an eruption of lava, and so tilted as to allow the dropping of the melted copper from a height, these globular or pear-shaped nuggets would be accounted for.

The heat supply of the eruptive rocks may also account for the "red lead" mines, which Jagor mentions. Red lead (PbO) is obtained by heating massicot, the monoxide of lead (Pb_2O), to a temperature of 600 F. Massicot is found in the district, and given just the necessary heat—no more, or melting would spoil the process—the metamorphosis of monoxide of lead, massicot, into the oxide, minium or red lead, would be the result. Lodes charged with sulphide of lead—galena—occur on two or three of the Syndicate's concessions. One is now in process of examination, and promises a good result, for the galena is rich in gold and silver. If it be found worth working, the ore will be shipped home for treatment. Veins of galena, with a good percentage of gold and silver, occur in the Island of Cebu. Some years ago a local company undertook their development with the usual result, abandonment for want of funds.

The coal which up to present times has been found in the Philippine Islands is not true coal, but lignite, probably of the tertiary period; and of a variety which can scarcely be distinguished by the eye from true coal. There is no reason why true coal should not eventually be found, for it is found and worked in Japan, whose geological formation has much in common with that of the Philippines. There has been no systematic search made in these Islands for coal, and wherever it has been found, it has betrayed its presence by outcrops. Thus, in the Island of Masbate, a local steamship owner drew his supplies from a bed of coal which is so tilted as to have the appearance of a vein. He supplied himself as long as his native labourers could get the coal with crowbars. Mr. Hilton, who examined this bed cursorily, estimated the available quantity of coal at about 600,000 tons in that particular concession. He is, however, of opinion that very much larger quantities are available in adjoining concessions. These mines are practically untouched, and as they are situated within a few miles of the coast, they can be worked at a profit by whomsoever should venture to introduce the necessary capital. Mr. Hilton, after trying it in a local steamer, gives it the character of a "very good steam coal." A similar quality of lignite has recently been found in the district, where the Philippines Mineral Syndicate is now working some mines, and it will soon be tried for the production of steam.

The only coal deposits which have been to a certain extent developed in the Philippine Archipelago, and of which a scientific and reliable record exists in the shape of a report by the able Chief-Inspector of Mines, Sr. Enrique Abella y Casariego, are the deposits in the Island of Cebu. This report is embodied in a very valuable work, which has already been alluded to in these pages. It is entitled "Rapida Descripcion Fiscica, Geologica y Minera de la Isla de Cebu (Archipielago Filipino)." It was published by Royal Order in Madrid, in the year 1886, and it is to be desired that it is only the precursor of other works from the same able pen. The coal deposits of Cebu were first examined in 1855 by the Government mining engineer, Sr. Hernandez, who without hesitation described the coal as "lignita" (lignite). A few years later, however, another Government engineer, Sr. Centeno, declared the formation in which the coal occurs to belong to the true carboniferous system, and proclaimed the discovery of a true coal field of large dimensions, the eastern rim of which cropped out in the Island of Cebu, whilst its western rim came to the surface in the Island of Negros. Analysis proved Sr. Centeno to be in the wrong, for the contents—or carbon—of the coal of Cebu do not exceed 54 per cent., against the minimum of 75 per cent. which true coal contains.

Sr. Abella describes the Cubu coal as *lignita piciformes* (pitchy lignite) very black, and in some instances resembling cannel coal. In carefully conducted official trials best Cebu coal figured as follows in relation to good Australian and British coal, viz., 156 parts Cebu equal to 147 parts Australian, and 121 parts British coal.

The carboniferous formation extends over the greater part of the Island of Cebu. From Balamban and Sogod, as far as Malabuyoc and Bojoon, a distance of over 50 miles, there is scarcely a village that has not its show of coal outcrops. These have been worked on many points, and the aggregate amount of development is not inconsiderable.

At one time the Government attached so much importance to the coal deposits in Cebu, that it established a monopoly, but this was soon abandoned, and the industry thrown open to all comers. For a time coal mining in Cebu became quite a rage, any number of concessions were taken up, and several companies established for their development. In one or two cases a considerable amount of capital was expended. Although faults frequently occur, large quantities of workable coal were met with, but the absence of roads, and the necessity of investing large sums in railways in order to meet the competition from England, Australia, and Japan, soon caused a reaction and put a stop to the industry. The present annual production of Cebu does not meet one-tenth of the demand of Manila, where the annual consumption of coal exceeds 60,000 tons. As the production is encouraged by a small import duty there is every inducement for the establishment of a well capitalised undertaking for the rational development of the Cebu Coal Fields, and it is not improbable that something in that direction may be done before many years are out. British enterprise has supplied Luzon with its first railway, a scheme which went long a begging, but now shows solid results, and it may be that British enterprise will prove that in the coal fields of Cebu the Philippine Islands possess a source of wealth which has been neglected because of the want of the "how to do it." In the mines of Ulung five beds have been ascertained to occur measuring respectively 3 feet 8 inches; 3 feet 8 inches; 3 feet 8 inches; 5 feet 8 inches; 5 feet.

No systematic search for banks of pearl shells has been made within the limits of the Archipelago, but from indications it would be well worth while to bestow a little attention to that branch of industry. Beautiful pearls are found in the neighbouring Sulu Archipelago, and pearls of very fine quality, but of unknown origin, are sometimes brought to Manila, where they meet with eager purchasers. Somewhere near the Philippines Mineral Syndicate's district is a small bay in which pearl shells are found, and some pretty, though small, pearls can occasionally be picked up at the local jewellers.

Before concluding these notes, or at least as much of them as refers to the mineral riches of the Archipelago, a few words anent gems may fitly be said. Until quite recently, a chapter on gems in the Philippines, at least as far as the experience of the writer of these notes went, would have had to be written after the model of the Danish Bishop Pontoppidan's chapter on snakes in his "Natural History of Norway." That chapter simply says:—"Snakes: There are none in Norway." Until a month or two ago the Philippines Mineral Syndicate knew nothing of gems in the Philippines. It did not look for them, for it has quite enough in hand for one small syndicate. But some gems came unexpectedly in its possession, small, very small gems, but none the less gems of a rare kind. One of the more remote mining concessions belonging to the Syndicate borders on the banks of a mountain torrent, the headwaters of which are miles away, high up in a valley, that trends down from the Central Sierra. There a tribe of natives live in primeval comfort or discomfort, according to whether it is fair or wet. Like their kinsmen elsewhere, they add to their income by occasionally washing the sands of their brooks for gold. In this they seem to be less adept than the coast natives, for the gold, which they barter away to the Chinese pedlars, is not pure, but contains particles of various minerals, which, with ordinary care, could have been easily eliminated, for they are of comparatively low specific gravity. Mr. Carnegie Williams examined these particles, and was struck with their peculiar shape, colour and lustre. In fact, he recognised some of them to be rubies of the true pigeon-blood colour, and sent home a parcel for examination. There are undoubtedly two rubies in the parcel, and two or three hyacinths. Being so small, they are not of much commercial value, but it is quite possible that larger ones will be found where the smaller ones were found. The gold, which the natives up in the Sierra wash, is very fine, almost dustlike, and in passing the auriferous gravel and sand over their washing boards, and then treating the residue in their wooden bowls, everything of a size above a pin's-head is rejected. One of these days, when one of the Syndicate's officers goes on a shooting excursion in the Sierra, he may have an opportunity to examine the gravel, whence these little gems came, and solve the question, whether large ones of commercial value are to be had. Or if any one of the readers of *The Mining Journal* should desire to solve the question by a personal expedition, he would, with a proper introduction, undoubtedly meet with such hospitality as the Syndicate's establishment can offer. And even if he did not find any gems of value, he would bring back with him such reminiscences of scenery, flora, people, and country, as would amply repay him for the outlay of money, time, and trouble.

THE INDIAN COAL INDUSTRY.—The statistics of the past year and the noticeable change both in the import and export trade of coal fully establish our estimates of this rising industry; while a marked increase occurred in the former, the latter shows a decided decrease. Referring to the returns before us, the importations of foreign coal declined last year by no less than 36 per cent., the lowest figure yet touched. With the outside demand on Japanese coal mines, there seems practically no limit to the development which may be expected during the next few years from Indian collieries.—*Indian Engineering.*

TOO MUCH STRESS cannot be laid on the fact that in the whirl of unnatural excitement, and in the struggle for existence in this generation, no attention whatever is vouchsafed to the most ordinary rules of health. When the muscles become relaxed, the nerves over-sensitive, and the brain wearies at the slightest task, these symptoms are part of Nature's warning that the delicate organism of the human frame is out of gear. In most cases a gentle stimulant and mild restorative is all that is required to impart fresh vitality to the jaded nerves, and it is a well-known fact that a few doses of Holloway's Pills work wonders, and restore the lost tone of the nervous system.

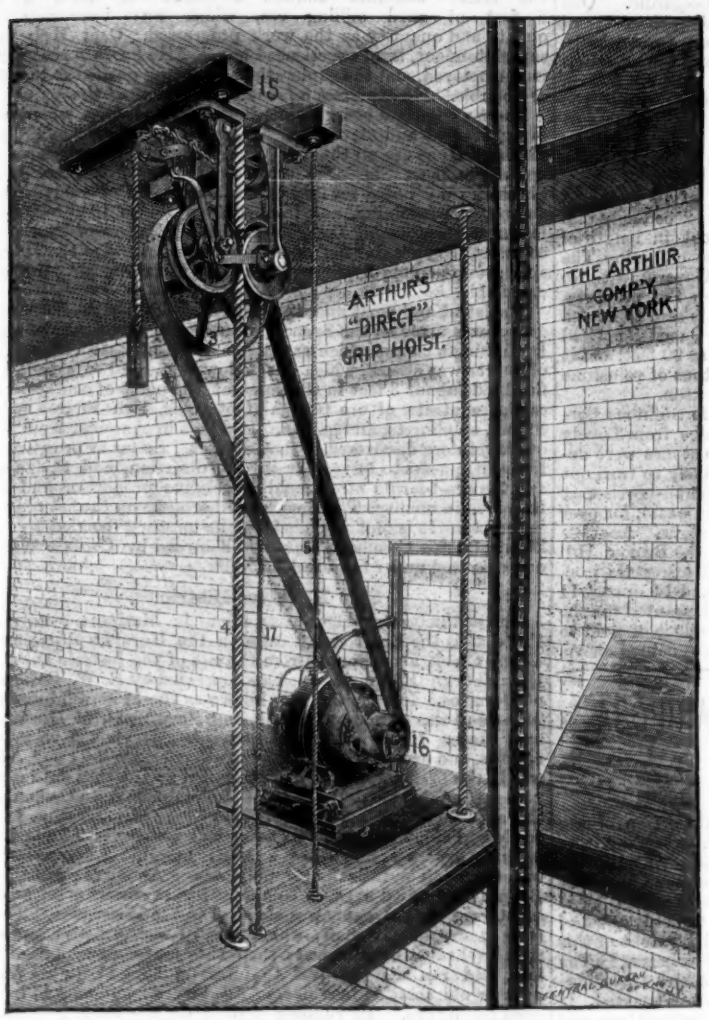
MECHANICAL ENGINEERING:

MACHINERY, MINING and RAILWAY PLANT, &c.

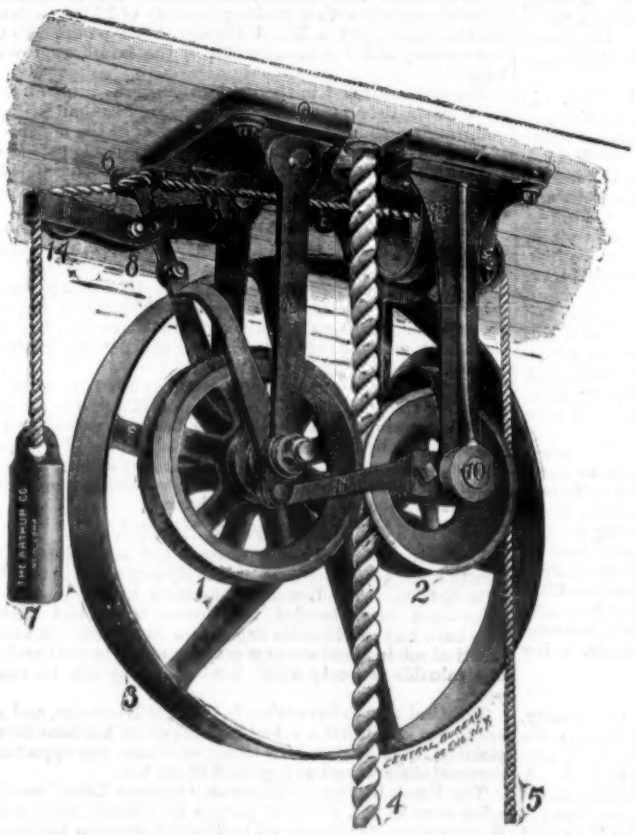
Illustrated Descriptions of New and Standard Mechanical Appliances, Accessories and Processes, adapted to Mining, Metallurgical, Railway, Engineering and other Industrial Purposes.

ARTHUR'S "DIRECT GRIP HOIST."

THIS machine, made by the Arthur Company, of 86, John Street, New York, is designed to take the place of man-power for hoisting goods in buildings, and is fitted for attachment to high-speed motors, especially electric motors. It is computed to do the pulling five times as fast and at much less cost. Power is applied to pulley 3 "direct" from motor with one belt; hence the name, "Direct" Grip Hoist. Pulley 3 and



wheel 2 are both fast on axle 10, and always run when motor runs, which means "all day," if permanent power be used. When it is desired to hoist goods the small lever rope 5 is pulled, and this acting on the lever 6 brings the split wheel 1 in contact with wheel 2, and also grips the hand rope 4, pulling it downwards. As split wheel 1 is pulled into the deep angular groove of solid wheel 2, its halves come together



on hand rope 4 by wedging into said groove of 2, so that power is transmitted from driven wheel 2 by friction to both halves of 1, and thence to rope 4; the effect being the same as if both wheels, 1 and 2, were receiving direct motive power. As pull on lever rope 5 is increased for heavier loads the grip on the rope and the friction contact increase proportionately, which exactly meets requirements. The great advantage of this invention consists in the fact that the hand rope driven by four contacts, almost completely grasping it, and yet only one pulley receives motive power, and only one belt is used. On releasing pull on lever rope 5, the weight 7 brings back the lever 6 against a rubber buffer at 8, and the hand rope hangs free between wheels 1 and 2 till hoist is again required. Being "direct" there is an entire absence of noise, and in practice the machine has been found to work satisfactorily.

GEOLOGY AND MINERALOGY OF SHASTA COUNTY.

By HAROLD W. FAIRBANKS, F.G.S.A.
From the Californian State Mineralogist.

XV.

(*Concluded from page* 804.)

THE summit of the divide between the Deadwood Mines and the Niagara Mine has an elevation of 4300 feet. The rock is argillitic, but a little distance down the western side of the mountain occur dykes of porphyry and granite. The granite at Deadwood seems to be the northern extremity of the granitic mass of the Trinity Mountains. The porphyry dykes are undoubtedly offshoots.

The mines at Deadwood are partly in porphyry and partly in granite. The granite lies mainly to the west of the town, where it outcrops for some distance along the road. Down the mountain argillitic rocks again appear, and strike east and west; dip north.

Near the base of the grade which leads up to Bully Choop the rock is a hornblende schist, changing to talcose schist; strike north and south, dip a varying angle to the west. About 5 miles up the grade is a dyke of porphyritic diorite. The rock becomes more quartzose, showing many varieties of a talcose quartz schist, or seritic schist. The latter are often of a shining white appearance. A mile east of the divide are dykes of diorite porphyrite running north and south. The schists assume a direction nearly east and west, and dip to the north, often at a small angle. The rock is quite uniform to the southern base of Bully Choop peak, where it strikes north 60° to 70° west, dip 65° north-east. The schists become more crystalline as the mountain is approached, turning to a hornblende schist, which in places becomes a pseudo-porphyritic hornblende gneiss. The main peak of the mountain consists of fine-grained serpentine, with considerable coarse hornblende and feldspar rocks. The serpentine is often somewhat schistose, especially on its borders. There is an abrupt transition from the hornblende schist to the serpentine. The latter formation is 1 mile wide from north to south, and 3 miles from east to west, lying about equally on both sides of the divide. The serpentine is succeeded on the north by thin-bedded micaceous hornblende gneiss, rich in the dark minerals. This is followed by fine-grained rocks formed of quartz and feldspar, and in the course of several hundred feet there is an abrupt transition to a coarse hornblende granite, often slightly gneissoid. One dyke of granite extends a little way into the schists. The contact runs parallel to the bedding of the schists, both in the case of the granite and of the serpentine. The granite extends north to Mount Bally, west 8 or 10 miles into Trinity County, and east nearly to Ono. A contact of the schist with the serpentine a half mile down the mountain shows that their boundaries are irregular, and small bodies of schist appear in the serpentine. Near the divide, a half mile south of the serpentine, are two bodies of white crystalline limestone. The limestone is reported to extend, though not continuously, 2 miles eastward, while another outcrop lies west of the divide. The schists on the north of the serpentine dip south 70° to 80°, while those on the south dip north.

This mining district contains veins conformable with the hornblendic and quartzose schists. They extend from some distance west of the divide in Trinity County, over the southern shoulder of Bully Choop, where the main development has been, to Sunny Hill Mines, near the base of the mountain. The ore is characteristically gold-bearing iron and copper sulphurets, with some free gold. Much of it is quite base, carrying arsenic and iron in addition to copper. The ore belt has a width of about half-a-mile. Within this distance are a number of veins which occasionally show a thickness of 20 feet. The quartz is a bluish-white variety. The walls are simply the country rock. Dykes of porphyrites were met in the tunnels, but they seem to have no relation to the ore deposits. Bunches of serpentine and granitic porphyry outcrop on the side of the mountain above the old mill. Extensive works were once carried on here, but it seems that they were unsuccessful, not from the lack of gold-bearing quartz, but from the inability to save the gold. With the proper manipulation of the ores, this ought to become an important mining district. The height of the mines is 5200 feet. They are reached by a grade 14 miles long, beginning near Watson's store.

Chanchelulla Mountain south-west of Bully Choop, and rising nearly as high as that mountain, consists largely of quartzose and talcose schists. (Fig. 5 is a section east from Bully Choop through Horsetown).

The shales of the Horsetown beds are well exposed in the creek beds about Ono. The noted fossiliferous localities lie between 1 and 2 miles below the town, on the Cottonwood and its branches. The granite appears about a mile west of Ono, and extends in a north-easterly direction, appearing 3 miles away on the road to Igo. The Horsetown beds terminate in coarse conglomerates resting on the metamorphic series and granite. This boundary follows an irregular line from Watson's store northeasterly, passing a little west of Ono and near Igo. More or less gold is found in these basal conglomerates. Many of the boulders resemble silicious conglomerates in French Gulch. Sandstone is the chief rock seen along the road from Igo to Ono. It dips only 15° to 20°. Igo is situated at the western extremity of the modern gravels, which extend toward the Sacramento River in very even, gradually sloping ridges.

At Piety Hill extensive hydraulic mining has been carried on, and large amounts of gravel still remain to be worked.

The rocks exposed for 1½ miles below Igo belong to the auriferous series, and consist of quartzose argillites and some slate; strike nearly east and west, dip north. These are followed by a diorite, or a feldspar hornblende rock, similar to that west of Muletown. Two and a-half miles west of Igo granite succeeds this diorite. The South Fork silver mining district lies about three miles west of Igo. The veins cover a stretch of country 4 miles in diameter, and are situated wholly in the granite, or, perhaps, more accurately speaking, in the diorite, except those on the east, which lie at the contact of the granite with hornblende or argillitic schists. Near the contact the granite is greatly decomposed, and this portion also carries silver veins. One vein occurs in the schists outside of the granite. The veins on the eastern side run a little east of north, dip east, while those in the granite as a general thing run north 45° east. Those near the contact are, perhaps, the best defined. These also carry more silver and less gold, together with galena, zinc-blende, and copper. Those in the granite may or may not have gauge seams. Some veins are almost pure galena, carrying some silver. In others there is galena and iron pyrites rich in gold; there is no free gold. Still, in others there are both galena and arsenical pyrites rich in silver. Much of the gold is very high grade. No mill for reducing the ore has yet been put up. A number of arrastras were working along the creek at the time of my visit, but they save, of course, only the free gold in the decomposed surface ores, the silver being allowed to wash away. The veins in the hard granite are somewhat bunchy, but are numerous and rich. The greatest depth reached—200 feet—was in the Chicago Mine. The rest of the work done here has been surface work. At the time of my visit there was not enough development to show the character of the deposits.

The road from Igo to Gas Point lies over a smooth gravel ridge, which extends in a south east direction north of the Cottonwood. South of the Cottonwood the gravel thins out, and has been mined over a large extent of country west of Gas Point. Cretaceous shales outcrop over most of the country between the forks of the Cottonwood. Near Gas Point they are covered by volcanic ash, which is in turn covered by gravels. The ash is very loose and soft, and in sluicing off the gold-bearing gravels on top, ditches were dug in it. The ash contains fragments of pummice 4 to 5 inches in diameter. The ash has been cut through in places, and between it and the bedrock were found petrified trunks of trees and charred stump, producing a poor quality of coal. This body of pumice and ash must belong geologically to the great deposit of that character on the west slope of the Sierras, and anti-dates, of course, the gravel period. A gravel ridge runs east and west for several miles between the north and middle forks of the Cottonwood, and it also has been largely mined over. The gravels have been worked within 2 miles of Anderson. Looking north from this point, the gravel ridge which extends south-east from Igo presents a remarkably even slope, and must have been deposited by Clear Creek, when its volume was much greater than at present.

TIN TICKETING.

A TICKETING for tin ores was held at Redruth, on Tuesday, with the following result:—

VALUES OF ORES SOLD BY EACH MINE.

	Tons cwts.	Per ton.	Value.
Carn Brea No. 1	13 0	£35 2 6	£456 12 6
do No. 1a	13 0	34 17 6	453 7 6
do No. 1b	13 0	34 17 6	453 7 6
do No. 2	2 0	27 0 0	54 0 0
Dolcoath No. 1	11 0	40 12 6	446 17 6
do No. 1a	11 0	40 15 0	448 5 0
do No. 1b	11 0	41 0 0	451 0 0
Tincroft	15 0	35 10 0	532 10 0
do	15 0	35 12 6	534 7 6
do	3 0	31 2 6	93 7 6
South Frances No. 1	15 0	38 10 0	577 10 0
do No. 1a	15 0	38 17 6	583 2 6
East Pool No. 1	17 10	35 15 0	625 12 6
do No. 2	2 0	17 15 0	35 10 0
Phœnix United No. 1	17 0	38 7 6	652 7 6
do No. 2	2 0	29 5 0	58 10 0
Killifreth	15 0	40 2 6	601 17 6
Wheal Basset	14 0	42 2 6	589 15 0
West Frances	14 0	39 15 0	556 10 0
West Kitty	14 0	42 2 6	589 15 0
South Condurrow	8 0	42 5 0	338 0 0
N. P. of Mines	3 0	43 2 6	129 7 6
	243 10		£9,261 12 6

Average price per ton £38 0s. 8d.

AVERAGE PRICES PER TON.

May 8	£42 0 8	July 3	£38 13 9
May 22	41 0 0	July 17	38 4 11
June 5	40 0 4	July 10	37 5 4
June 19	39 5 6	August 24	38 0 8

AFTER-DAMP IN MINES.—At the meeting of the British Association, on Wednesday, Dr. J. S. Haldane read a paper, in which he claimed that he had found out a method by which miners can live for some time in the after-damps that have hitherto proved so terribly destructive to human life. He has been studying the whole subject of colliery accidents, and finds that, contrary to the usual teaching on the subject, the largest proportion of deaths (three-fourths at least) are due, not to the direct effects of explosion, but to suffocation by subsequent gases. The chemical books about coal mine gases are, according to the doctor, not very accurate. For instance, the black damp, which is particularly deadly, is represented as being almost entirely composed of carbonic acid gas, but analyses show that there is only 10 per cent. of it, the remainder being nitrogen. As the bodies of the majority of the miners killed have been mostly found by Dr. Haldane lying at considerable distances from the point of explosion, he turned his attention to devising means by which the miner can keep himself alive after the blast, and ward off suffocation till he fights his way to safe air. The result is a portable tin case enclosing a steel bottle of compressed oxygen, to be released by turning a tap, whence it passes through a tube, to be breathed through a kind of respirator which can be used at a moment's notice. This is the general idea; certain details remain for determination. The apparatus is about the size of a safety-lamp and Dr. Haldane's recommendation is that supplies (it can be made for about 10s.) should be kept at the pit's mouth and in all parts of the underground workings. By subjecting himself, his friends, and some animals to experiments in the laboratory, the inventor is able to calculate that a miner, by using the invention, could walk about for an hour or remain stationary for three hours, without succumbing to the after effects of an explosion. Experiments have yet, however, to be made with natural after-damps.

SPECIAL CORRESPONDENCE:

COLONIAL AND FOREIGN.

OUR PARIS LETTER.

South African Shares.—French antagonism to British mining enterprise.—The Metal Market.—The supposed Coal Field at Calais.—A big mining scandal.

THE Parisian market for South African mining shares is growing in importance, and a large amount of French capital is now invested in these securities. The customary timidity of share buyers in this country is reflected in the hesitating and varying movement of this branch of the share market, and it looks very much as if a French holding will lend itself more easily to the "rigging" of the market from Johannesburg or London than the retention of the shares in English hands. So far, French speculation in Randt mines has been principally confined to five properties, apart from the Champ d'Or, which is of French establishment and management. These five are all more or less among the "gilt-edged" branch of the South African market—the City and Suburban, Robinson, Crown Reef, the Ferreira, and the Geldenhuis Estate. Even these shares do not maintain anything like steady values, and the other day there was a heavy fall in Robinsons, which are now again mounting. After these shares there is a certain demand for the New Heriot, the Worcester, and the Jumpers, and lately a small group of speculators have been operating in Henry Nourse shares. The Langlaagte, which only lately adapted its constitution to the rules of French company law, in order to secure a position on the Paris Bourse, has been suffering a heavy fall, and is at present lifeless at low prices.

The number of speculators who are engaged in South African mining shares is a very limited one. There is a singular lack of knowledge concerning South Africa as a whole, and the jealousy of British influence has its effect in restraining any participation in enterprises of which the guiding principal is British. So far as the operations of Parisian financiers have resulted in the increase of French interests in the Transvaal they are likely to be hostile to British predominance in that country. The recent "commandeering" incident, instead of awakening any feeling against the Boers, has evoked the suspicion of a movement on the part of England to destroy the independence of the Transvaal. This antagonism to British influence is seen especially in the present attitude of the Mozambique Company. Probably as some excuse for the small results that have been attained in the mineral development of its territory the company is still anxious to exact some recompense from the British South Africa Company for the disturbance which took place in Manica three years ago, and is considering to what legal tribunal it can appeal. This international friction has certainly militated very greatly against solid and serious development work. It is satisfactory, however, to find from the annual report that several new railways are being surveyed, besides the commencement of the Beira line.

The Metal Market possesses one feature of promise in the slightly upward movement of copper. The strengthening tendency is due to the announcement that negotiations are in a fair way of being carried out for a renewal of the restrictive policy between European and American producers. It is the general opinion that if supplies are once more kept within the limit of requirements, the price of copper will steadily advance. In any event it will certainly give rise to a feeling of confidence which the metal at present lacks. Tin mining enterprises are suffering from the same absence of activity, and while companies have endeavoured to recoup themselves for the low prices by largely increasing their output, the revenues have in nearly every case fallen off considerably. The same thing is noticeable also in other metallurgical enterprises where the persistent decline in the value of metals is telling disastrously upon the success of the industry. The lead, zinc, and silver mines of Laurium are perhaps an exception, in so far as the position of the shareholders is concerned, for notwithstanding a decline of revenue upon an increased output of metals, the difference is not large enough to affect the dividend paid to the shareholders. Probably the position of this company would hardly be so satisfactory if it were not for the fact that it is peculiarly favoured by the rate of exchange prevailing in Greece. Owing to the financial collapse of that country the exchange is now at its maximum, or nearly so, and it is likely that the profits gained from this source represent at least one-half of the company's revenue. Mining concerns in Greece seem to be benefiting considerably from the company's embarrassments.

The question that has been raised as to the presence of a coal field in the neighbourhood of Calais continues to occupy the attention of mining engineers. At the Ecole des Mines preparations are being made for carrying out boring operations, and it is fully expected that the results will be in every way satisfactory. If coal measures are cut through similar to those found at Dover, their exploitation may give quite a new stimulus to industrial activity in France. The complete dependence of France upon England for its supplies of good steam and gas-making coal is regarded with anything but favour, and many attempts have been made unsuccessfully to restrict the increasing importation of English fuel. If the supposed Calais field is capable of furnishing an abundance of superior coal it will be possible to supply the home market almost entirely with native fuel.

Letters that have just been received from Australia state that there is quite a fever of speculation in the southern continent. Capital is being invited and secured for mining undertakings of the most extravagant kind, and in the present state of public enthusiasm for mining enterprise the swindling promoter is reaping a rich harvest. Every day there are reports of new mountains of gold being found in some outlying territory. One of the greatest swindles ever perpetrated has just come to light in Tasmania, where the population has been for some time thrown in a state of excitement by the report that Mount Huxley was found to contain nothing but gold. The precious metal outcropped at the surface and only required picking up by the fortunate prospector. So firmly was this believed that the shares of the company formed to work this famous mine soon attained to an extraordinary value. The Government of Tasmania grew alarmed at this position of affairs, and sent an eminent geologist, Mr. Montgomery, to report upon the property. Upon a first visit some traces of gold were visible upon the surface, but the borings that were made revealed nothing. A few days afterwards the experts were surprised to find gold in places where before they had seen none of the precious metal, and there could be no doubt that the mine had, in the meantime, been "salted." The prime movers in this affair are now passing their time in prison.

OUR SOUTH AUSTRALIAN LETTER.

(FROM OUR OWN CORRESPONDENT).

Adelaide, July 11.

THE *Mining Journal* of June 2 came to hand two days ago, and my letter of a month previous, headed "South Australia—Improved Prospects," induces me to send you a few lines on the most recent developments in gold mining in our colony. The auriferous district, extending in an easterly direction from the Alma and Victoria Mine, Wankaringa, nearly to the New South Wales border, has frequently been mentioned in my letters as one likely to prove rich in the precious metal. My last letter mentioned something of the recent discoveries on the old Mingary Mine, and since it was written they have developed to an extraordinary extent. The reef which on the surface was 18 inches thick has widened to fully 2 feet and nearly 3 feet in places, and is yielding a quantity of rich specimens, equal to any of the show specimens sent here from Coolgardie. One large block of dark brown quartz—the prevailing character of the veinstone—weighing over 2 cwts. was sent to Adelaide. Gold in veins and large specs were visible from end to end, and if the whole stone were crushed it would yield a splendid return. But for real beauty and extraordinary richness, several of the smaller specimens far surpassed the large one. A stone measuring 5 by 3 by 2 inches had a nugget of about 3 dwts. sticking out at one end, and gold as large as pins heads showing all over it; in fact, the stone was heavy with gold.

The vein has been sunk upon to the depth of 10 feet, and for 20 feet in length has yielded a quantity of exceedingly rich stone. The reef has been traced for 150 feet in length of similar quartz. The company have renamed the old mine The Lux, and have 35 acres of land leased from the Government. No less than nine lodes, gold bearing, are found on the property. One of the old shafts is 276 feet in depth, and is said to have a gold bearing lode in the bottom. The adjoining Queen Bee Gold and Copper Mine cut a distinct auriferous lode at 90 feet, and it has been sunk on to the depth of 192 feet. 60 tons of veinstone gave a return of 1 ounce 12 dwts. of gold to the ton.

About ¼ cwt. of fine specimens of gold in ferruginous porphyritic felspar were brought down a few days ago from Lovely Gully, a new discovery, near Wankaringa. The stones were decidedly rich, and the locality is reported to be likely to turn out very profitably. Nillinghoo is about 30 miles north-north-east from it, and has an auriferous reef extending, it is said, for over 10 miles in length, and in places showing rich stone. Another discovery near Oodla Wirra, a small station on the Broken Hill Railway line, has a reef of quartz, gossan, and manganic iron, 4 or 5 feet wide, from which assays of 11, 13, and 14 ounces 11 dwts. to the ton have been made. But capital is wanted for the proper development of these discoveries. One ounce of gold to the ton of stone would pay from any of the places named above.

MINING DISTRICTS OF MARIPOSA COUNTY.

THE Coulterville district embraces all that portion of the country lying north of the Merced river, extending from the Merced line to the dense forests and granite domes of the Sierras easterly, and northerly to the Tuolumne line. The district is gridironed with gold-bearing quartz veins. The town of Coulterville is the business centre, and the only town of note on that side of the river. The territorial extent of this district is more than five times that of "Los Mariposas." The yield in gold from the crude workings in quartz and the primitive methods of placer mining cannot be definitely estimated. It includes several hundred claims recorded under the local laws, and about 25 covered by U.S. patent. The list of patented mines embraces several which have heretofore yielded good returns and are still believed to be valuable if systematically and skilfully worked.

The following are among the prominent mining properties held by the owners under original patent and undisputed title in the district:—Penyon Blanco, Tyro, Black Hill, Margaret, Virginia, Louisa, Delia, Midas, Anderson, Mary Harrison, Melvina, Adelaide, Crown Lead, Crystal, Ventura, D. Cook, Melvina No. 2, Red Cloud (or Kate Kearney), Potosi, Louisiana, Banderita, Hasloe, Compromise (formerly Marble Spring) and the Ohlmeyer placer claim.

The Hornitos district includes the town of Hornitos, old Quartzburg, Indian Gulch, and a portion of Cathey's valley and all the territory west of the westerly line of the grant and south of the Merced down to the north-easterly boundary of Merced. Within its boundaries are located the Mt. Gaines, Enterprise, Doss, Washington No. 9, Pool group, Indian Gulch Gold and Silver Quartz Mine, Jenny Lind, Duncan, Gonzales, Juniper, Jim White, Tandem Copper Mine, and Lorenzo Costa (a placer mine near Hunter's Valley).

The Sherlock district, lying northerly and easterly from the grant, comprises the mines located in the immediate neighbourhood of Sherlocks, Whitlock's, Colorado, and Sexton's creeks and their tributaries. But a small percentage of the mines in this district are held by patent. The following comprises the list so far as heard from:—Whitlock, North Whitlock, Spencer, Feliciana, Sierra Rica, Roma, Colorado, Bogan, and Battaille; Deltz and Schroeder, Jones Flat, Golden Eagle, and Spring Garden placer claims.

The district designated as Sweetwater includes the mines along the headwaters of the creek, from which it takes its name, as well as Bear Creek and the main and south fork of the Merced. The most prominent mines in this district are the Hite, Cranberry, Rutherford, South Side, Georgia Point, Spring Tunnel, Hite Central, and Priest and Coleman. These are held by United States' patent. The statistics of the Hite Mine show that it has yielded $2,250,000 during 20 years—about two-fifths of the entire product of the Fremont Grant during the same period. To further illustrate the mineral resources of the several districts and their improved conditions and prospects, a few details are appended.

The Whitlock Mine.

This was one of the earliest quartz locations in the county, dating back to 1853. The first practical work was done in the latter part of the fall of that year by Morris and Goodman, who built the pioneer quartz mill on Sherlock's creek in 1854. A few year's later a new mill was constructed on Whitlock's creek, just above its junction with Sherlock's. The property changed hands several times, and was subsequently owned by Diltz and Snooks, then Snooks and Marshall and other parties in interest. It was loosely managed, till it became involved in debt and fell into the hands of Sullivan and Cashman some time in the early sixties. About 30 years elapsed before any further attempt at practical work was made. In 1891 the property was purchased by Captain A. H. Ward, who is now the owner of this and the Spencer, an adjacent vein. Ward cleaned out and retimbered the old tunnel—a distance of 850 feet from its initial point—and then sunk a shaft and made an upraise to the surface, prospecting as the work progressed, the development indicating that the mine was better than it was at first anticipated. In August last the owner bonded the mine to William Johns, the general agent of the Sierra Buttes Company, who are engaged in several important mining enterprises in other portions of the State, notably the Sierra Buttes in Sierra and Plumas counties, the Uncle Sam in Shasta, and the Eureka in Plumas. Mr. Johns is an experienced mining man, and eminently cautious and conservative in the matter of investments. Under his management the cleaning out of the old tunnel was resumed and carried to its terminus, which proved to be 1215 feet from its mouth. It is now being pushed ahead and following the course of the vein, which is from 6 to 7 feet wide, and carries a heavy body of paying ore. The shaft at a point in the tunnel 800 feet from its mouth was sunk by Ward about 70 feet, and continued under John's management to a depth of 162 feet below the tunnel level, or 362 feet from the surface. At this point drifts were started north and south, following the course of the vein, which at the latest accounts showed a width of from 6 to 8 feet of good milling ore, which was improving in quality and quantity as the work progressed. Capt. Mills, the superintendent, is an experienced miner. He has a force of 25 men employed, and the explorations are being pushed as rapidly as possible. He expresses a favourable opinion of the mine.

There are several other claims in the same district which are being opened and developed. The Spencer, Alabama, and Farmer's Hope are on the list. The range through which these veins run faces Sherlock's creek on its north-easterly slope. Sherlock's was noted for its extraordinary yield of gold in the days of placer mining, and from 1849 down to 1856 held the foremost place among the gold-producing placers of Mariposa county. The possibilities of future developments in the extensive group of gold-bearing quartz veins in that locality are incalculable.

The latest and most important development in the Whitlock group was made on the Spencer vein a little over a month ago. In running a tunnel which was commenced last season, a stringer of quartz was struck, which was followed and led to a well defined lode about 3 feet in thickness at the point of contact. It carries a strata of ore fully a foot thick, rich in free gold, copper, sulphurets, and galena. It differs in character from any ore heretofore discovered in that district. So far as prospected, the vein appears to be regular in dip, direction, and thickness, and the ore-bearing strata hold its relative proportion and has improved in quality. The Spencer will soon be on the list of paying mines. It is not included in the property bonded to the Sierra Buttes Company, but is still owned by Captain Ward, and operated under his direction.

The Hornitos District.

One of the best paying quartz mines in Mariposa county at this date is the Enterprise, located in the Hornitos district, on Burns' Creek, about a mile from the site of the historic town of Quartzburg. It is now owned and operated by R. W. Barcroft, of Hornitos. It was originally known as the Mineral Mountain Mine, and was owned by Hassey and Brownfield, of Hornitos, and Major Harawick, of Quartzburg. It yielded very fair returns, and even in the flush times was considered "rich." This was in the first decade of quartz mining, and at that date when "wages" meant from five to eight dollars a day, and when all the appliances for hoisting ore, pumping, and blasting were crude and cumbersome, and a mine had to be "rich" to cover working expenses and leave a small margin of profit, the water came in and became troublesome. About ten years ago Barcroft organised a small company for prospecting purposes, and thereafter the name was changed to the Enterprise. They cleaned out the old shaft, which was 70 feet in depth, and on that level ran a drift 80 feet; then they made an upraise of 18 feet, and ran a short drift to intersect an old tunnel from another old shaft 54 feet deep. All this work proved to be in good paying ore. In running a drift on the lower level they struck a heavy body of rich sulphurets and strata of quartz carrying free gold.

Barcroft is an old pioneer miner, with all the tenacity of purpose which characterises that class of Californians, and labouring under the usual financial embarrassments environing a "49er." Hence the delay in getting things in running order, and it was not until August last that the mills, hoisting works, and other appurtenances were completed. He now has in operation an eight-stamp mill with a crushing capacity of 12 tons a day, good hoisting works, and a No. 4 Hooker steam pump. To this he has recently added a concentrator of the latest approved pattern.

The ore extracted in the explorations was crushed and the yield was satisfactory—none of it paying less than $10 per ton, and running as high as $20. The owner of the mine had contracted to crush a large amount of ore for outside parties during the winter, which, to a certain extent, interfered with the development of the Enterprise, but work has been recently resumed.

The Mount Gaines, another case of suspended animation, near the western base of the Bear Valley range, was reopened last season with profitable results.

The Hulings property, embracing the Pool group, No. 9 and other mines, has recently been purchased by M. L. Rogers, the owner of the Washington Mine. This latter has the deepest shaft and workings of any mine in the county, having been worked to a depth of 1600 feet.

Another group of mines southerly from the town of Hornitos, including the Doss, Eureka, and Quartz Mountain, has come to the front during the past year. The Eureka is owned by Rogers, and the Doss by the heirs of the Brooks estate. This latter was opened a few months ago after several years of rest, and is being thoroughly prospected. The vein is well defined and carries an immense body of gold-bearing sulphurets.

Coulterville District.

Evidence of vitality and a renewed and active interest in the quartz mining industry are particularly noticeable in the Coulterville district. The Louisiana—formerly known as the Heslip Mine—has been bonded to Messrs. Gove and McKenzie, who have had considerable experience in practical experience in practical mining, and are now pushing ahead in the development of a valuable property which has been lying idle for nearly 20 years.

Practical miners have taken hold of the Banderita, and reports are to the effect that a valuable chute of ore has been developed, yielding (as it is stated by those who have the opportunity of personal observation) as high as $40 per ton.

The Pinon Blanco, on the great "Mother Lode," was bonded a few months ago, the real parties in interest being a wealthy English company, though no positive information has been given to the general public as to the bedrock facts.

The Tyro Mine, about a mile west of the town of Coulterville, is owned by F. C. Jarvis, of San Jose. The death of Charles Sutherland, the managing superintendent, and business complications connected with its management, resulted in a suspension of work. Operations will be resumed in the near future. The vein at the depth of 600 feet—the lowest point reached—is fully 5 feet in thickness, carrying free gold and a fine

quality of sulphurets, which were concentrated and shipped for reduction.

Simultaneously with these movements, work has been resumed on the Bondurant and Red Cloud, after a prolonged season of inactivity. Superintendent Hopkins, of the Red Cloud, reports favourably upon the condition and prospects of the mine.

The foregoing statistics are derived from reliable sources, and although not entirely covering the field of active operations, will serve to illustrate several important facts: First, that the Mariposa grant is insignificant in area and value compared with the entire county, three-fourths of which is mineral in character. Second, that in the matter of depth the limit of paying ore has not been reached. In illustration, the Princeton shaft, 600 feet; the Hite Mine, over 900 feet; and the Washington, about 1600 feet in depth, may be cited as instances. Third, that Mariposa is awakening from a Rip Van Winkle sleep, with a fair prospect ahead for an era of prosperity.

To these, in the matter of statistics, may be added the fact that, outside of the "grant" there are over 50 mining properties held under U.S. patents. The number of unpatented claims recorded and held under the local district laws cannot be readily computed.

The Question of Power.

With a few isolated exceptions, the location of the best mines is convenient for the direct application of water power for mills and other machinery—the Merced river being the only stream of reliable volume. Hence, as a rule, steam power has been necessarily employed. The local supply of fuel has never been very abundant, and with the constant drain upon the scattering groves of timber for domestic firewood, lumber, and fencing materials, points to an era in the near future when more economical policy will be forced upon the people. Without discussing the wasteful and reckless methods heretofore in vogue, the impending scarcity of fuel in the foothills is so palpably apparent that he who runs can read the lesson. The item of "wood" has figured largely in the expense account of mining enterprises and may be set down as an important factor in the wasteful methods which have culminated in suspension, abandonment, and financial wreckage.

As an example, take the Washington Mine, where for several years the cost of wood for running the mill, hoisting and pumping machinery, and incidental appurtenances averaged over $75 per day. This serves the purpose of an object lesson, and fairly illustrates one of the disadvantages under which the quartz mining industry has laboured.

The recent achievement in the application of electricity as a motor, when harnessed to an unlimited water power as the generative agent, points to a practical solution of the problem. The Merced river, from the floor of the Yosemite valley down to the western boundary line of the county, has a fall of about 3700 feet. The stream is perpetual—a surging torrent during the severe winter rains and in the early spring months, and even at its lowest stages, carrying water enough to furnish power sufficient to run the quartz mills and other machinery for all the mines in the county, and an electric railroad through the foothills to the Yosemite valley, the Big Tree grove, or any altitude where waggon roads have heretofore been constructed. The distances from convenient points on the river for the necessary water supply and the mines where the electric power can be utilised will range from 5 to 15 miles. The limit of distance for the transmission of power by wire has not yet been reached, but practical experiments have demonstrated that for any of the short range requirements in connection with the mining operations herein noted, the subtle agent can be transmitted without any appreciable loss.

These facts have not escaped the attention of the mineowners, and several parties interested in the development of the mineral and other resources of the county have been moving in the direction of organising a company with the object of utilising the wasted forces of this magnificent stream for the purposes herein mentioned. Estimates are given of cost of construction of dams and all the appliances, together with an electric road, having its terminus at a point convenient to Yosemite Valley, and an outline statement in detail of the profits which will naturally result from the enterprise. These details have been embodied in a prospectus which, when re-arranged and more fully elaborated in some important particulars, will be given to the public. The enterprise has been made the subject of deliberation and discussion for several years by men who fully comprehend the situation and have the courage of their convictions, but, unfortunately, lack the sinews of war for carrying on the work to a successful issue. Capital just now is held in a tenaceous grip—the consequence of investments in inflated securities; hence the nervous condition of the money market. With the recovery of an healthy tone in finance, no enterprise promising such grand results will go begging. Mariposa's mineral resources are second to those of no county in the State, and practically are only in the first stages of development. The utilisation of the Merced river, and its application to the electric dynamo, solves the problem of cheap power. It is the key that unlocks the golden gate of financial prosperity in Mariposa county.—*Mining and Scientific Press.*

PATENTS, MINING, AND FINANCIAL TRUST.—The statutory meetings of the creditors and shareholders of this company were held at Carey Street, W.C., before Mr. Winearls, assistant receiver. The accounts showed unsecured debts £25,228, loans on debenture bonds £51,230, unencumbered assets £3 14s. 6d. and a contributories deficiency of £80,517. The Chairman reported that the company was formed in March, 1890, for the purpose of acquiring inventions by the purchase and development of patents, also for the promotion of companies. No prospectus was prepared by the directors, amongst whom was Lord Thurlow. The nominal capital was £100,000, made up of 19,800 ordinary and 200 founders' shares of £5 each. The number of shares issued as fully paid was 3442, and 161 shares, in addition to the seven allotted to the signatories, were paid for in cash. On the 14th May, 1890, the company entered into an agreement, under which certain shareholders in the Imperial Fire Extinguishing Company transferred their shares in that company in consideration of shares in the Trust. During the company's existence it promoted, amongst others, the following companies, viz.:—The Great Eastern Lode, the Newfoundland and Canadian Exploration Trust, the Dacota Land Investment Company, the New World Island Mining Syndicate, and the Colonial Debenture Corporation. In January, 1894, a month before the winding up order was made, Mr. Ogle was appointed as Receiver for the debenture holders, whose bonds amounted to £50,000, and were issued as follows, viz.:—£38,000 for cash, £6000 in exchange for shares of other companies, and the balance of £5000 odd in respect of discount. The assets of the company consisted exclusively of shares in companies promoted by the Trust, and up to the present moment the Receiver for the debenture holders had not realised anything whatever from them. From the commencement Lord Thurlow had financed the company, and was at the date of the winding up order the holder of debentures to the amount of about £20,000. The meetings were formally adjourned for a week, the Chairman stating that unless a special resolution were passed, the Official Receiver would act as liquidator, and wind up the company in due course.

BARBERTON, as well as Johannesburg, has held a public meeting, and has protested against the granting of any cyanide monopoly.

MEETINGS OF MINING COMPANIES.

MAY DEEP LEVEL.

The company absorbed.—The provisional agreement.

(From the *Standard and Diggers' News* of Johannesburg,)

AN extraordinary general meeting of shareholders in this company was held on Monday, July 21st, in the Board Room, Bettelheim Buildings, Johannesburg.

The business of the meeting was to consider and confirm or otherwise a provisional agreement entered into between the directors of the May Deep and New Primrose Companies, whereby all the assets of the May Deep were sold to the New Primrose for 18,750 shares in the latter company. The agreement further provided that the Primrose Company should pay the liabilities of the May Deep, amounting to £30,000, and should increase its capital by a sum not exceeding 50,000 £1 shares, and that 30,000 of such new issue should be offered to the shareholders of the New Primrose and May Deep Companies *pro rata* to their holdings at £4 per share, together with a guarantee that the 30,000 shares offered be guaranteed at 80s. per share.—Mr. JOHN DIXON presided, and amongst those present were Messrs. S. B. Joel, R. Lillienfeld, A. Friedlander, Levy, R. J. Lamb, J. W. Philip, Goldmann, A. Wagner, G. Imroth, W. Leslie, and F. W. Diamond, secretary. In all, 53,714 shares were represented at the meeting.

The provisional agreement was read.

The CHAIRMAN said those present had heard the provisional agreement read, which had been entered into between their directors and representatives of the New Primrose Gold Mining Company. The last time he had the pleasure of addressing them from that chair was in March of last year, and the future of the company was, at that time, a very rosy one indeed; but he could not say the same to-day. The present meeting might be considered almost the end of the May Deep Company—at least, he hoped so. Reconstruction had then just taken place, and funds were provided, sufficient as they thought for the equipment and development of the mine, and their plans had been carried out under the superintendence of an eminent engineer. As development proceeded, however, it was found that the reefs and the quality of the ore was not what they had been up to that time. When crushing was commenced in August of the last year, the very first month's yield was less per ton than it had been at any time previous, and this, they must remember, under the new conditions—with perfect conditions so far as they could get them, and the development of the mine fairly well ahead, at all events it had gone on for seven months whilst the mill had been standing. As the months rolled on, each month seemed to yield less, until the position of the May Deep became alarming. He (the speaker) was begged by cable and letters, by large shareholders here, to return to the Rand. He did so, and on his return here he found the company was indebted to the tune of over £20,000. That, of course, was in consequence of the reconstructors of the company not having taken up the option they had on the 24,000 reserve shares of the company at par, the market, as well as the mine, being in a deplorable state. He (the speaker) then, along with other of their directors, succeeded in borrowing the sum of £30,000. They thought, at that time, it was better to borrow than attempt to reconstruct in a bad market. As shareholders were aware, their shares were then standing at about 7s. 3d. to 7s. 6d. They succeeded after some time in borrowing the amount he had stated, and set to work to buy the machinery, which had been badly erected, scamped, and was not in good order. He (the speaker) was then managing director of the company, and went to reside on the mine in order to supervise and closely watch the working of the company. After three months' working he found that they were losing money every month, and that, in order to turn that loss into a gain, they would require further sums for the further development of the mine. The ore they were then developing and crushing was poor and unpayable, worked by a small battery. He recommended the board to at once close down the works, and the board had adopted that recommendation, and issued the following circular, which he would read:—

"May 15th, 1894.

"To the shareholders of the May Deep Level,—I am instructed to advise you that on further development, No. 6 reef has proved to be of much lower grade than heretofore; my board has, therefore, reluctantly decided to cease milling operations for the present, and to use all the funds available to push on development at a few points towards the western section of the property, where the reefs have proved to be good in the outcrop company's ground. It is quite apparent that the company requires further stamping power to treat the low grade ore at present available, to make the mine a paying concern. With a 50 head mill and cyanide plant, No. 4 reef could be worked at a profit, very little development being required to open up 10,000 tons of ore on this reef. As soon as a suitable offer is received to place the company in a position to pay off its liabilities, and to carry out the above objects, my directors will convene a meeting of shareholders to consider same."

Continuing, the CHAIRMAN said that circular was issued on May 15th, not only to the shareholders of the May Deep, but to the public, by means of paragraphs. All were made aware of the conditions prevailing in the May Deep, and that it was in want of funds, so that any financier wishing to take an interest in the May Deep could come forward. The directors considered at the time that this was a sufficient advertisement that they were in want of a sum of money to further develop the mine. The first gentleman who approached them was a representative of the Primrose, who came on behalf of that company. They entered into negotiations which extended over some weeks, and whilst these negotiations were going on they informed certain large shareholders in London, who they knew were buying largely into the company, of the offer that had been made. Before the negotiations referred to closed another company approached them, and certain large shareholders at home had also interested themselves in this other company to approach them here. After going over the property with the manager of the other company—both properties he might say—they had an interview, and an offer was made, which the May Deep board did not consider satisfactory, and which fell far beneath the offer made them by the Primrose Company. They then cabled to the London shareholders that the offer made by the company, which they recommended to the directors, was not a good one, and one that they could not accept. They then got their consent to accept the offer made by the Primrose Company. He must say that the representatives of the Primrose Company during the negotiations met them in a generous spirit, and at last complied with their demands, and he, for one, as a large shareholder in the May Deep, felt very well satisfied at the result of those negotiations, and he trusted that those present to-day would confirm what their directors had already done, as he was sure, under the circumstances, that the May Deep Level Company could not do better. He had told the May board when he made that report in May last that at least £60,000 would have to be raised to reconstruct the May Deep; £30,000 to pay off debts, and the balance to put up another 20 stamps, a cyanide plant, and to develop and equip the mine generally. Even if that had been done he very much questioned whether, before they had been able to start their 50 stamps, they would not have had to go into debt to the extent of another £10,000 or £15,000—that was to thoroughly develop the mine and get well ahead. Under these circumstances he felt sure, if the money had been forthcoming to reconstruct the May Deep, that it was far better for May Deep shareholders to become partners of the Primrose Company rather than to raise that amount of money, and so either reduce the value of their holdings or water their capital. Now the Primrose Company was, as they knew, a good going concern, paying good dividends, and the proposition in purchasing the May Deep Level is, on their part, to increase the capital of the Primrose by 50,000 shares of the nominal value of £1 each. Now under the scheme there would be something like 30,000 shares left over and above the number they had to give to May Deep shareholders, and those 30,000 shares would, at their market value be equal to £120,000. £30,000 of that amount would be devoted to paying off the May Deep debts, and the remainder to further development of the May Deep Mine, and the erection of further stamping power on the Primrose property—he believed it was their intention to increase their stamping power to a 200 head mill with this money. If this were done it would make the company one of the first, if not the first, producers of gold upon the Rand. He (the speaker) would for one like to become a partner in that concern by accepting this scheme, and they knew, too, that with such machinery, and dealing with so large a quantity of ore, that they could work the May property very much cheaper per ton, and at a lower cost than the May could. The Primrose top charges and charges of a various kind would be practically the same when they had absorbed the May Deep as to-day. And it was just those very charges during the last two or three months that had turned the May profits from mining and milling into a loss. The mining and milling had paid them, but these top charges, being so heavy on a small concern like theirs, had taken away the profits and turned the concern into a losing one. Now, under these circumstances, he thought they would agree with him that they could not do better than accept this scheme and the provisional agreement made between the directors of the May Deep and New Primrose Companies. He would, therefore, close by proposing—

"That the provisional agreement made between the directors of the May Deep and the New Primrose directors, dated the 22nd June, 1894, be and is hereby confirmed."

Mr. A. WAGNER seconded the resolution.

The CHAIRMAN, having waited some time for comments, said they all seemed to be satisfied with the explanation he had given and the agreement entered into provisionally. He would, therefore, put the matter to the vote.

This was done, and the resolution carried unanimously.

The CHAIRMAN, in conclusion, thanked those present for their attendance, and their confirmation of the action of the directors. It was always pleasing to be supported by shareholders in anything they might do, and come to a general meeting, as to-day, and find it receives the unanimous support of the shareholders. He must announce that a confirmatory meeting of the May Deep Company would be held on the 31st July next in that room, at the same hour.

This ended the proceedings.

NABOB GOLD MINING COMPANY.

(From the *Standard and Diggers' News* of Johannesburg.)

An ordinary general meeting of shareholders in the Nabob Gold Mining Company, was held in the Board Room, Peel's Chambers, Johannesburg, on July 22.—Mr. F. MOSENTHAL presided, and there were also present Messrs. A. Wagner, W. T. Graham, W. Dettelbach, R. C. Hemming, A. Sprinz, R. G. Fricker, W. McCullum, H. J. Macrae, G. Nathan, A. Fraser, G. Oppenheimer, C. A. Billau, and A. E. Page (secretary).

The minutes of the previous meeting were read and confirmed.

The directors' report was read by the SECRETARY as follows:—

As stated in their last report the income formally derived from the lease of the company's property has ceased, and during the past half year there has been no revenue of any kind. There is an amount of £1070 5s. 8d. sterling, available cash in hand, in addition to the other assets, £1000 sterling, of which your directors have placed on fixed deposit with the Bank of Africa. With regard to the renewal of the Mynpacht lease referred to in the last report, your directors acting under the advice of counsel abandoned the contemplated proceedings for "a declaration of rights," and accepted the boundary line of the property as shown on the plans in the Surveyor-General's Office. In adopting this course your directors have forfeited a small angle of the Mynpacht ground, which is practically worked out, and of little value to the company, but on the other hand the heavy legal expenses which would have been incurred in contesting the action—which might after all have been decided against the company—have been avoided. Application to the Government for the renewal of the Mynpacht lease has now been made, and your directors hope in a very short time to be in possession of the formal documents granting the same. Since meeting you last half year your directors have again convened a special general meeting of the shareholders for the purpose of discussing the future of the company with a view—if a sufficient representation is forthcoming—of adopting new Articles of Association or deciding upon the reconstruction or liquidation of the company. This meeting will take place immediately upon the conclusion of the half yearly meeting, and as set forth in the circular issued to shareholders, your directors trust that sufficient interest will be manifest in the affairs of the company by the representation of a requisite number of shareholders for the adoption of the business for which the meeting has been called. You will at this meeting be called on to elect two directors in the place of Messrs. A. Sprinz and F. Mosenthal, who retire by rotation, but being eligible, offer themselves for re-election. An auditor will also have to be elected, and the remuneration of the auditor for the past half year fixed.

In moving the adoption of the report and balance sheet, the CHAIRMAN said, as stated in the report, they had abandoned all idea of instituting proceedings for a declaration of rights, the directors having agreed to accept the boundary marked on the diagrams in the Surveyor-General's office. That, they thought, was the best course to pursue in the interests of the company, and he believed shareholders would agree with the board, especially as the ground which they gave up was practically worked out.

Mr. WAGNER seconded the motion.

Mr. MACRAE said he would like to know whether there was a possibility of sufficient shares being represented at the extraordinary general meeting of the company, which was to be held immediately after that meeting, to enable them to carry out the objects of the meeting, because if not he would like to ask some questions about the reconstruction of the company.

The CHAIRMAN replied that no doubt they would be able to hold the extraordinary general meeting, and it would be competent for them to pass resolutions; but he did not think sufficient shares would be represented to enable them to pass resolutions for liquidating or reconstructing the company. They wanted three-fourths of the capital represented to enable them to pass resolutions for liquidating or reconstructing the company.

The motion for the adoption of the report and accounts was then put to the meeting and carried unanimously.

On the motion of Mr. WAGNER, seconded by Mr. GRAHAM, Messrs. F. Mosenthal and A. Sprinz were re-elected directors.

Mr. FRASER proposed, and Mr. HEMMING seconded, that Mr. Macrae be re-appointed auditor. This was unanimously agreed to.

This concluded the business.

An extraordinary general meeting of shareholders was then held for the purpose of discussing the present position of the company's affairs, and, if thought advisable, passing the resolutions necessary for either the amalgamation or reconstruction of the company on such terms and conditions, and in such manner as may be thought fit, or for the dissolution of the company; or the adoption of entirely new Articles of Association, in lieu of the existing articles, the general nature whereof is to facilitate the conduct and carrying on of the business of the company generally, and in particular by altering the voting power to one vote for every share held, by reducing the majorities necessary to resolve upon liquidation, amalgamation, reconstruction, and alteration of the articles, to provide for the appointment of trustees and of a London committee, for the reduction of capital, the issue of share warrants, and conversion of share-

into stock, to reduce the quorum necessary at general meetings, and to introduce various minor provisions to render the carrying on of the business of the company more easy.

The Chairman (Mr. Mosenthal) said there was a sufficient quorum present for the transaction of ordinary business, but they could not decide to liquidate or reconstruct the company, the number of votes represented at the meeting being very far from sufficient for such purposes. The number of votes present was less than a quarter part of what was required under their Articles of Association to carry resolutions in favour of liquidation or reconstruction. It was perfectly impossible to get a sufficient quorum as required under their Articles of Association; they had been trying for three years to get it, and had always failed. Under the circumstances the board thought it advisable to consult their solicitors, and get them to draw up a resolution which they would put to the meeting asking the High Court to allow them to alter the Articles of Association to enable them to carry on the affairs of the company, or to give them such relief as the Court might think fit. If they did not do that, it would be impossible to carry on the affairs of the company.

Replying to the Shareholder, the Chairman said that meeting could not vote a new trust deed,

The Chairman then moved the following resolution:—"That the shareholders present in person and by proxy at this meeting hereby record their opinion that it is in the highest degree advisable that the company should be reconstructed in order to enable the active working of its property to be proceeded with, and their regret that owing to the large majority required by the trust deed to carry any scheme of reconstruction or amalgamation and the apathy shown by the remaining shareholders, it has been found impossible to obtain the requisite majority to carry out any such scheme, that it is desirable that steps should be taken with the assistance of the Court, if possible, to obtain such modification of the existing trust deed as will enable such shareholders who continue to take an interest in the affairs of the company to carry out and conduct the business of the company, and, if necessary, apply for liquidation in order to achieve these ends." He (the Chairman) might state that a Mr. Smith, a London shareholder, had addressed a letter to the board, and had sent proxies for 1500 shares. Mr. Smith said in his letter that it was the wish of the shareholders he represented that the meeting should be adjourned for six months. The directors were quite willing to adjourn, but they had not the power to do it under the Articles of Association. Mr. J. Brenton, another London shareholder, also wrote asking why the directors did not try to sell their property to the Consolidated Gold Fields of South Africa.

In reply to a question, the Chairman said 12,942 shares were represented at that meeting out of 75,000. In order to alter the trust deed or to pass a resolution for the liquidation or reconstruction of the company, they wanted three-fourths of the votes of the company.

Mr. Wagner said he thought they ought to take some notice of the letters that had been sent in by the London shareholders. He suggested that they might advertise in London and Continental papers asking the shareholders in the Nabob Company to register their addresses in London. It was very doubtful whether the Court would accede to the request if they passed the resolution moved by the Chairman.

Mr. Fraser thought the Court would afford some relief. It would be cheaper than advertising, and help to facilitate matters.

The Chairman suggested that they should pass the resolution. There was no intention to liquidate the company, sell the property, and divide the proceeds among the shareholders.

The resolution, moved by the Chairman, was carried.

It was also resolved to open an office in London where shareholders might register their addresses, and have their shares forwarded to the head office for registration.

This terminated the proceedings.

WHEAL METAL AND FLOW.

The value of tin.—A unanimous meeting.

A general meeting of the shareholders in Wheal Metal and Flow was held at the offices of the company, Nos. 14 and 15, Broad-street Avenue, on Wednesday, to audit and examine the accounts, to make a call if necessary, and to transact the ordinary business of the company.—Mr. J. H. Collins, F.G.S., presided.

The Secretary (Mr. G. E. Collins) read the notice convening the meeting.

The Chairman then read the following report, signed by Messrs. J. H. Collins and Sons, managers:—"In sending you the enclosed notice of meeting, we would draw your attention to the annexed statement of accounts, which will then be presented. It will be seen that our hope, as expressed at the last meeting, that the returns from the tribute lease would cover the standing charges, has not been realised, the accounts showing a deficiency of £52 12s. 11d. in this respect. Moreover, we were surprised to find how large an amount had to be provided to cover the merchants' bills owing, notwithstanding repeated instructions to charge up every account as received. Our dissatisfaction on these and other points has led to our giving notice to terminate the tribute lease now held by Captain Curtis, the late agent. We expect to be able to make other arrangements by which, until some decision as to the ultimate future of the mine is arrived at, work will be carried on at a nett loss of only a few pounds per month. Meantime we have been anxiously endeavouring to realise the outstanding calls, and while we cannot, perhaps, complain of the result so far achieved, we propose to obtain authority to take legal proceedings against all who may be in default. We trust that our co-shareholders will unanimously support us in taking such steps as may place the company in a thoroughly sound financial position; so that we may either recommence operations with a clean sheet, or, if the tin market continues indefinitely without hope, terminate our existence creditably and without loss to the adventurers. We regret to say that the price of tin remains excessively low; and that the confident hopes everywhere expressed of a prompt and material rise in value have so far been proved baseless."

The Chairman then said: Gentlemen, you have all had copies of the accounts and of our report for the past four months, and you know the worst. I must admit that they are not very encouraging, for there has been no improvement in the price of tin during the four months. We must, therefore, continue our attitude of expectancy, waiting for the improvement which is sure to come. When we last met I remarked that at present prices not more than two mines in the county could pay their way at present prices. Since then we have seen a considerable loss at Dolcoath, for the first time, I think, for more than a quarter of a century. Meanwhile we may comfort ourselves by the reflection that our loss has been comparatively trifling, and it will, no doubt, be less in the next four months, even if there is no advance in tin. Gentlemen, the rise will come, and we must wait for it with what patience we may, for we cannot hasten it. Our loss during the next four months will be trifling, but as several of our shareholders have lost heart and soul and sent in relinquishments, and as one considerable claim on the Bentinck estate is still held in abeyance, I think you will see that we must in our own defence make a call to secure ourselves and all those who have the pluck to stick to the ship. I now formally move the adoption of the report and accounts, and invite the remarks of the shareholders present as soon as the motion has been seconded.

Mr. Simmons seconded the motion, asking whether it was proposed to make another call before the former one had been paid.

The Chairman said that this was his suggestion.

The Secretary mentioned that the only shareholder who had written his opinion as to the proposed call was Mr. Helder, who was definitely in favour of it.

The motion for the adoption of the report and accounts was then put and carried unanimously.

The Chairman, recurring to the question of the call, said he did not know why they should be left with a liability by those people who had lost faith in the concern.

Mr. Simmons asked how many shares had been relinquished.

The Secretary replied that during the last six or seven months some 600 or 700 shares had been relinquished.

The Chairman suggested that the call should be 1s. a share, and made payable on November 1st. That would leave two months between that and the one due on September 1st.

Mr. Simmons thought that if tin were going to continue at its present value it would be well for the company to wind up. It appeared to him that tin had gone the same way as copper and lead.

The Chairman did not take quite so gloomy a view of the situation as that. In about four months time they would be able to tell what was going to happen. It should not be forgotten that they had seen the price of tin at its present low point twice before, while in the intervals it had been very high indeed.

Mr. Simmons: What was the cause of the depression?

The Chairman said the cause of the former depression was that the discoveries in Australia and the supplies from the Straits began to tell. The Straits could not, however, go on sending tin into Europe at its present price excepting when silver was at the present low figure. The dollar price of tin in the Straits was to-day a very high one—equal, in fact, to tin in England at £130 a ton. So that he did not anticipate any improvement in tin until there was an improvement in silver. When, however, there was a small improvement in the price of silver, it would occasion a large improvement in the price of tin. The rise of a penny, for instance, in the price of the higher metal would mean an improvement of at least £4 or £5 in that of tin.

Mr. Dixon thought it would be a great pity to give up the mine.

The Chairman believed there was a future in store for the company despite the bad luck they had had. They had been learning how to work cheaply and to advantage, and if they only had £90 a ton for tin, which was at one time considered a bad price, they would do uncommonly well.

Mr. Dixon thought it would be advisable to make the call as suggested.

The Chairman thought they were certainly bound to do that now whatever else they did next year.

The Secretary hoped the resolution for the call would be carried unanimously, as he personally felt a responsibility for keeping the balance sheet straight.

Mr. Dixon: This being a Cost-book mine things ought to be kept straight.

The Chairman: Yes, I very strongly object to things being behind hand.

On the motion of the Chairman, seconded by Mr. Dixon, the following resolution was carried unanimously;—

> That a call of 1s. per share be made, payable on November 1st, and that a discount of 5 per cent. be allowed on all amounts paid by that date.

The Chairman said he did not think those who had relinquished their shares would be in a better position than those who had not.

The Secretary said they would at least have to pay 10d. per share, without any hope of a return, while those who paid 1s. had such a hope.

On the motion of Mr. Dixon, seconded by Mr. Denny, the following resolution was carried unanimously:—

> That the managers and secretary be instructed to take legal proceedings against all shareholders in arrear of calls, subject however to their discretion in any particular case.

The proceedings terminated with a vote of thanks to the Chairman.

Venezuelan Mines (Limited).—A general meeting of the shareholders in the Venezuelan Mines, Limited (in liquidation), was held on Thursday, at Winchester House, the chair being occupied by Mr. J. C. F. Lee, one of the liquidators.—The Chairman laid before the shareholders a brief statement of the company's affairs, and went in detail through the accounts, commenting explanatorily upon the items. He avowed his continued faith in the capabilities of the mine, and said that had it been situated in a congenial country, instead of in Venezuela, where the cost of living was so high and the conditions of life and commerce so uncertain, it could easily have been worked advantageously. Under present circumstances, however, there was little hope of this, and the only thing for them to do was to wind up.—On the motion of Mr. Charter, a resolution was carried approving and adopting the accounts of the liquidation.—At the conclusion a hearty vote of thanks was accorded to the liquidators, several shareholders expressing their appreciation of the ability with which the affairs of the company had been conducted.

Joint Stock Companies in Southern India.—Reviewing the report during 1893-94, the Madras Government remarks that the chief feature is the increase, as compared with the preceding year. After the extraordinarily speculative year, 1885-86, when no fewer than 375 new companies were started, a rapid and continuous decline occurred, and in 1892-93 only thirteen new companies were registered. The lowest point seems to have been touched, for the upward tendency in 1893-94 is strongly marked. Government also remarks that it is noticeable that the average capital of the working companies shows a tendency to decrease, the average nominal capital of each company being only Rs. 199,157 in the year under review, against Rs. 201,153 in 1892-93, and the average paid up capital being only Rs. 95,396, against Rs. 98,773. "This is the reverse of what was observed when reviewing the reports for 1892-93 and previous years. —*Indian Engineering.*

Remarkable Action by Ironworkers.—A remarkable attempt to prevent the closing of an ironworks is now being made by the workmen of the New British Iron Company (Limited), Congreaves, Staffordshire. A scheme has been initiated by the operatives for raising sufficient capital to carry on the works by means of subscriptions from the local tradesmen and the workmen and managers themselves. Something like £100,000 is necessary to purchase the works, and the workmen alone propose to contribute £16,000. An active canvas of the district is now being made, and the result is eagerly awaited.

M. L.—We have made inquiries respecting the contents of your letter, and have been unable to obtain the necessary information.

Mr. Kaufman has brought to town from his concession on the Barima some immensely rich quartz, says the *Demerara Daily Chronicle*. If he sinks a shaft to a depth of 100 or 150 feet on the lode, and has a fair amount of quartz of the same value, he will have a Bonanza, and we wish him every success. Of course we cannot expect every quartz bubble to turn up trumps, as the average of the work is under 5 per cent. From January 1 to June 30, 1893, the colony, with 596 companies, produced 63,112 ounces. From January 1 to June 30, 1894, the colony, with 647 companies, produced 59,144 ounces. The Essequebo district has 219 companies, and yielded 28,561 ounces from January 1 to June 30, 1894, divided as follows:—

10 companies yielded 14,306 ounces from January 1 to June 30, 1894.
23 companies yielded 6901 ounces.
176 companies yielded 7354 ounces.

The Barama district has 258 companies, and yielded 14,432 ounces, divided as follows:—

9 companies		6,747
14	"	2,644
235	"	5,150

The Cuyuni district has 132 companies, and yielded 12,458 ounces, divided as follows:—

6 companies				6,052
15	"			2,644
111	"			3,859
Massaruni	with	3	companies	2,633
Puruni	"	22	"	989
Groete Creek	"	10	"	70
Demerara River	"	1	"	1

RESOURCES OF THE THAMES GOLD FIELD.*

On July 2, at a meeting of the Auckland Institute, a paper read on "The Geology, Mineral Resources, and Future Prospects of the Thames Gold Field," which had been written by Mr. James Park, F.G.S., Director of the Thames School of Mines. Mr. Park not being able to attend, the paper was read by Professor Thomas. We give in full the concluding portion of Mr. Park's paper:—

During the 27 years that have elapsed since the opening of this field the working of the mines has been principally conducted by private enterprise, or by companies with local interests. The richness of the lodes and leaders permitted the operations to be conducted in most cases with a small working capital, and in this way the more readily accessible gold-bearing veins have been gradually exhausted. The production of gold up to the end of last year was valued at over £5,500,000—a yield unsurpassed by any other gold field of the same area. Besides yielding so large a treasure, the mining operations of the past have added much valuable information respecting the distribution and extent of the field. There is a widespread, but erroneous, impression that the Thames as a gold field is rapidly approaching its end. The fact is that it is simply nearing the end of the first stage of its existence.

It is an undoubted fact that the main reefs of the Thames are more numerous and of greater persistency in size and extent than those of any other gold field in New Zealand, and their development promises a brighter and more permanent prosperity for the future than that experienced in the past. The period intervening between the end of the old and the beginning of the new condition is certain to be a period of acute depression and stagnation, and the longer the interval the greater the depression will be. After mature consideration I have arrived at the conclusion that the future extension of the field may be effected from three different directions. First, there is the systematic development of the large, low grade reefs which exist in the Moanataiari, Waiotahi, Una Hill, and Hape areas. Among these should be specially mentioned the Sons of Freedom, Reuben Parr, Golden Age, Waiotahi, Hague Smith, and Jupiter reefs in the Thames proper, all large, persistent, well-defined gold bearing lodes.

I am confident that our future wealth lies in our low grade ores, and have no hesitation in saying that the undeveloped wealth contained in the millions of tons of ore in these reefs forms one of the most valuable and reliable assets of the Hauraki gold fields. Most of the lodes enumerated above could be worked "water free" for many years, and only require cheap transit for the ore, and efficient battery treatment to be made to yield steady returns. A work of great urgency is the extension of the Moanataiari Tunnel, which would then be an underground road and adit of great public utility, and enable large blocks of ore, at present standing, to be worked with advantage and profit. Examples of what may be effected by cheap milling, together with a high rate of extraction, is afforded by the leading mines at Waihi and Karangahake, where low grade ore is made to yield steady dividends. It was proved conclusively some years ago that the same ore when treated by the ordinary wet battery process would not pay half the working expenses. In the second place there is the development of the large gold-bearing reefs in the northern extension of the Thames auriferous belt, in the upper valleys of the Tararu and Puru streams. Some of these reefs attain a thickness of 40 feet, and they are traceable on the surface for thousands of yards. They are enclosed in the most favourable class of propylite, and wherever they have been tested they contain gold.

In the early days of the gold field they attracted a good deal of attention. Several batteries were erected in their vicinity, and even with the crude appliances then in use, they were made to yield thousands of ounces of the precious metal. From then, till now, they have been neglected and almost forgotten. At the present time, however, two small four stamper batteries are now being erected to further test them—one at Lowrie's reef, in the Tararu watershed, and in the other in Puru creek, above the forks—to crush stone from the splendid reefs which traverse the wooded ranges forming the watershed between the Puru and Tararu streams. The erection of these small batteries by private enterprise in such inaccessible places can only be accomplished by much self-sacrifice, and a brave determination to overcome all obstacles. It is sincerely to be hoped these pioneers will reap an ample reward for their efforts, but whatever their results may be, I am convinced that there is a bright future in store for these districts, whenever the capital is available for their development on a large scale. The reefs are mostly low grade, and the bulk of gold so fine that it will require the best appliances and skill for its profitable extraction, and these can only be obtained by the expenditure of money.

In the third place there is the working of the deep levels on the Thames fore-shore. This may be considered under distinct phrases,—namely, the exploration and working of the deep ground lying below the existing levels, and the development of the large area of virgin ground lying under Block 27. The working of the deep ground, below the present levels, could be most easily effected by deepening one of the most existing shafts on the foreshore, and at once opening out new levels on the best known gold bearing reefs. If these proved to be payable, still lower levels could be constructed, and this course could be continued so long as the results warranted the additional expenditure. The system of reefs which, from the splendid returns obtained from them in the upper levels, especially deserve to be thoroughly tested in this manner, are the Saxon, Queen of Beauty, and Vanguard. These contain many strong well defined lodes which have been proved to exist in the lowest working so far undertaken upon them.

From the necessity which exists of erecting suitable pumping and winding machinery, this will be costly, although a thoroughly legitimate mining undertaking. Of the reefs in Block 27 nothing of a positive character is known, as the gold bearing formation in that area is obscured by pleistocene high level terrace gravels and clays which, in places, attain a thickness of 300 feet. It is, however, perfectly certain that the numerous strong reefs which traverse Una Hill, on the footwell of the great fault, also traverse this faulted hangingwall portion. Experience in the northern and middle divisions has shown that the rocks on the seaward side of the great fault are more decomposed than those on the upland side, also that the contained reefs are as rich or richer than those in the harder country, therefore I think it is only fair to assume that this will be the case with the Una Hill reefs and rocks when found under the block. But this scheme, like the former, can only be accomplished by the aid of capital.

The whole of the workings will be situated below water level, and this will necessitate the erection of pumping and winding machinery, capable of reaching at least a depth of 1200 or 1500 feet. This area, like the known parts of the field, is no doubt traversed by wide bands or belts of propylite or "kindly country," separated by bars or cores of hard tuff, breccia, or andesite. It seems to me this is a case where the diamond drill might be used with much benefit, in order to supply information as to the exact nature of the country below, before selecting a site for the pumping or winding shaft. If a site were selected haphazard, and a vertical or highly inclined bar of andesite encountered, the cost of sinking and construction would be greatly increased, and even when completed the additional cost of cross-cutting the hard country at the different levels would tend to endanger the success of the whole undertaking. From a long personal acquaintance with the characters and peculiarities of the gold-bearing country and the reefs of the Thames gold field, I am convinced that when her main lodes and low levels are fully developed she will enter on a second lease of life, more prosperous, although perhaps less exciting, and infinitely more enduring than the first. In Hungary, reefs of a similar character, and in the same class of country, have been profitably worked for over 800 years, and this fact, I think, augurs well for the future prospects of this gold field.—*New Zealand Herald.*

* A paper read before the Auckland Institute.

COMPANY FINANCE.

Reports, Balance Sheets, Dividends, &c., of Mining and other Companies.

The Glenrock Company.

The following circular has been sent to the shareholders:—The directors have pleasure to communicate extracts from recent correspondence received from the Premier Mine:—Mr. W. J. Stanford reports under date June 9: "The great news, as already cabled to you, is that we have picked up the Loop reef again in the No. 4 level, immediately above the low level adit. Of its extent and value we know very little at present, but it is quite sufficiently encouraging to find that it contains visible free gold, and in the crosscut shows at present nearly 2 feet of quartz, and we have not yet reached the proper footwall. I hope that when we start driving upon the quartz, development will justify expectations. There is absolutely no doubt in my mind that the quartz struck in the low level adit is McKenzie's shoot. It is a grand body, and, even if of low grade ore, should pay well with 30 stamps. Shaft No. 3 is now down to the 6th level, and a contract is let to connect the shaft with the main shaft No. 2. This connection will open up a fine body of rich quartz for stoping. The stope on reef No. 2 has improved considerably.—High level adit: A contract was started here last week, and have made already good progress. As far as I can see at present, the August crushing should be at least 800 tons.—Cyanide process: During May everything in the cyanide house was frozen; the zinc in the extractor boxes was frozen, the gold being frozen hard to it. I do not think there is any appreciable loss, and when we start again, it will be easily obtained." Assays taken in London during May from quartz received from the Premier Mine gave results varying from 11 ounces to 16 ounces per ton, and a shipment of ½ a ton of ore is expected to arrive in London very shortly to more thoroughly test the nature of the stone. The stamps recently purchased from the Homeward Bound property have now been erected, so that the Premier Mine is equipped with a 30 head battery, and the stone breaker recently sent from London should facilitate the feeding of the mill. Mr. Stanford's forecast, therefore, for the current month of 800 tons being crushed should be very much within the capacity of the stamping power. The directors have received a cablegram, dated August 2nd, to the following effect:—"That no clean up will be made for the month of July, new stamps working well. Mackenzie's reef plenty of ore, quality not very good. Loop reef developments promise well; rich ore." Shareholders should bear in mind that the month of July is the worst period of the winter season in New Zealand, so that the delay in cleaning up is not of any significance. It will be gratifying to note that considerable progress has been made in improving the mine; the development work that has been in hand for some time past has been so far successful in opening up ore bodies as to render it possible to now keep the 30 head of stamps at work. It is confidently anticipated that from the current month a large body of stone will be treated, and if the Loop reef developments continue in rich ore the financial result within the next few months should be of a satisfactory character. It would at last appear as though the undertaking has passed through the preparatory stage and was about to enter a payable era.

Poorman Consolidated Mines.

The report of the directors presented at the annual meeting, held at Undercliffe, New Jersey, United States of America, on the 9th ult., states:—"The one serious question which now presents itself to the directors is how to provide funds for rebuilding the mill. The company's resources have become exhausted owing to 11 months of non-production, and the output for the month of June can hardly be available for this purpose, as at the time of the fire the concentrates produced were in the mill, and, although we do not as yet know for certain, it may reasonably be presumed that they are amongst the ruins. In any event, it is by no means safe to rely upon this as a source of financial assistance. It is, therefore, proposed by the board that an issue at par of 48,000 shares be made, and that the same be offered to the shareholders for subscription, with a view to providing £12,000 to re-erect the mill, adding at the same time to it 10 additional stamps, making its capacity 60 tons to 70 tons per day, instead of 50 tons as before." The total amount of the liabilities of the company to July 20, 1894, is as follows:—Amount due account purchase of property, $43,235; amount due to directors, $2500; amount due on loans, $11,175; total, $56,911. Against this sum there is to be placed as an asset the retorted gold from the June clean up, which alone was saved from the fire, the concentrates being buried in the ruins.

Salisbury Gold Mining Company.

The report of the directors for the half-year to May 31 shows that 24,882 tons have been crushed for 16,311 ounces, while 6145 ounces were obtained from 16,281 tons of tailings. After writing off £7383 (15 per cent.) for depreciation and £7644 in order to bring down the ore in sight to 5s. per ton, the accounts show a net profit of £220 for the year. The dividend of last November absorbed £9300, and, after crediting £8576 received as premium on shares sold, the credit balance is reduced from £37,097 to £36,493. During the year the directors have sold 5900 of the reserve shares for £8576, and the issued capital is now £98,900. Of the balance carried forward of £36,493, the sum of £13,450 is represented by cash in hand, and it is proposed that this shall be utilised in increasing the Jubilee-Salisbury joint battery from 40 to 60 stamps, and in adding to the cyanide plant.

Alaska Mexican Gold Mining Company.

The semi-annual statement up to June 30 is as follows:—The mill ran during the past six months 185½ days, during about 140 days of which, owing to the severe winter and scarcity of water, steam power had to be used entirely.—Deadwork. There has been expended for this purpose $1026·70 for labour, besides supplies, &c., for same, all included in mining cost.—Interest. This amount $1243·54 was paid to the Alaska Treadwell Gold Mining Company for advances made by them.—Construction Account. Construction of mill and works amounting since January to $4519·80 is now completed, and has been charged to property or plant account. Any ordinary construction about the works from this date will be charged to general expense account.—Riedler Compressor. Superintendent Duncan reports that this is now doing excellent work, and giving good satisfaction.—Milling and Mining. It will be noted that the cost of milling and mining proper is $1·76 per ton, the total cost for everything being $2·06 per ton. If the mill had twice the capacity, the cost of working would be but little more, and the yield double.—Development Work. The report of this work will appear in Superintendent Duncan's annual statement.—Yield. The yield of $2·76¼ per ton is small, but even this in an ordinary season, when we do not have to use so much steam power, would pay a handsome profit.

— Arrangements have been made by the GOLDEN THISTLE GOLD MINING COMPANY (Coolgardie) to open a London Agency at No. 2, Metal Exchange Buildings, Leadenhall-street, E.C.

REVIEWS.

Coal Dust an Explosive Agent. By Donald M. D. Stuart. (London: Office of the *Colliery Manager*, Bouverie Street, E.C.)

A certain school of political economists has recently been agitating the question whether we are not selling our coal too cheaply. Looking upon the expenditure of human labour, which an article requires for its production, as the true index of the value of that article, these economists assert that foreign nations are not giving us an adequate return for the fuel with which we are supplying them. There is doubtless something to be said for this view, and when, in addition to what may be called the legitimate wear and tear of muscle and sinew in coal production, the item of human life that is yearly sacrificed by colliery explosions is admitted into the calculation, its significance is still further enhanced. No doubt the labouring capacity of a nation is the true basis of its wealth, actual or potential, and from the economic standpoint we could better afford the loss of a score of stockbrokers than of one coal miner. Morever, a colliery explosion brings in its train not loss of life alone, but the destruction of valuable property, the accumulation often of the patient labour of years. Looking at the subject, therefore, from the lowest utilitarian standpoint, and disregarding all higher humanitarian considerations, the prevention of colliery explosions is a matter of prime importance, not only to the colliery owner and the coal miner, but to the entire nation. Any contribution to our stock of knowledge regarding this subject deserves therefore ample recognition. Scientists have studied the theories underlying it, practical men have patiently contributed their experience, royal commissions have repeatedly investigated every aspect thereof, and yet, in spite of all that science and skill can do, explosions still occur, even in mines where nothing that the highest authorities consider necessary is overlooked or neglected, as evidenced by the recent terrible disaster in South Wales.

The volume now under review forms the latest addition to our knowledge of colliery explosions. It gives a very full and detailed account of an explosion that occurred towards the end of last year at the Camerton Collieries, in the Radstock district of Somersetshire, and of which few of the readers of *The Mining Journal* are likely to have heard, and still fewer to remember anything. Fortunately, the disaster was a comparatively unimportant one, although two lives were lost and a considerable amount of damage was done to the underground workings. Whatever interest attaches to it is, however, due to the same cause as that which prevented it from assuming serious dimensions—the fact, namely, that it took place in a non-gaseous mine. Of course, such an accident is by no means unprecedented, seeing that explosions have repeatedly occurred in metalliferous mines. In the present case the author has come to the conclusion that the explosion was due to the finely divided coal dust suspended in the air of the mine, and ignited by a blown-out shot in the roof of one of the levels. He appears to hold the view that the flame of a candle—it is almost superfluous to say that naked lights are used in this colliery—is incapable of determining an explosion in such a mixture of air and dust from a non-fiery coal seam. He shows by calculation that the quantity of heat developed by a blown-out shot is ample to decompose the coal dust, and thus liberate explosive gases; in this connection it is important to note that the coal of the seams in which the explosion occurred contains a large amount of gas. It is used to a considerable extent for gas making, and analysis has shown that a ton of this coal under normal conditions of temperature and pressure yields 11,134 cubic feet of purified gas, or, in other words, taking 28 cubic feet of this coal to the ton, it is capable of generating close on 400 times its own volume of gas. The author states very definitely that no carbonic acid at all was produced in this particular explosion; to use his own words:—"Carbon dioxide could not be detected in the gases that filled the roads after the explosions." This statement appears so very strange as to be hardly credible, and it would be interesting to know how this fact was ascertained. The author's theory that the high temperature of the blown-out shot at once caused dissociation of all the hydrocarbons into carbon and hydrogen, and that it was the latter element alone which ignited, appears to require experimental confirmation. It is certainly difficult to imagine that the whole of such a stable body as methane, which explodes at a temperature of less than 678° C., should not have burnt as such to a considerable extent, however high the temperature and however limited the supply of oxygen.

Such considerations as the above, however interesting from the point of view of the chemist, are far secondary from the miners' point of view to the broad statement of the general fact that an explosion of a very serious nature was produced by a blown out shot in a non-gaseous colliery, where naked lights can be used with impunity, and where the only explosive material present was the dust from this same non-fiery coal. It is true, at the same time, that all the other conditions present favoured an explosion; the dust was very finely divided, very dry, had accumulated in considerable quantity, and the axis of the shot hole, being in the roof, pointed directly towards it. The author has accordingly done good service in putting on record a circumstantial account of all the phenomena attendant on the disaster. He appears, however, to be powerless to suggest any precautions that should be taken to avert the recurrence of similar accidents under similar circumstances, and contents himself with reiterating the well-worn expedient of thoroughly watering the coal dust in the vicinity of a shot before firing it. It is surprising that he has not made any mention of water tamping, and has not attempted to point out within what limits immunity from such explosions can be expected where this method of blasting is adopted. Faithful observation of the circumstances under which explosions occur is, no doubt, the first step towards their prevention, but it leaves the far higher and more important step of practically preventing them still to be taken.

THE HUMOUR OF THE STOCK EXCHANGE.

The Book of the Chronicles of J. K., or the Battle of the Tapes, according to P. A. Le Feuvre, with illustrations by George Cruikshank.

This publication, the substance and manner of which can be easily gathered from the title, is a favourable specimen of the flashes of humour which occasionally illumine Throgmorton-street. It is a cleverly written skit, in a style which reminds one of the language of prophecy, on a budget of late events which will be familiar to every member of the House. The uninitiated may be able to gather the main idea of the publication, but only to those who have followed closely the course of the recent dispute about the tapes, and who are thoroughly up in the jargon of the House, will it be wholly explicable. These latter will read it with the greatest amusement, for the booklet teems with happy allusions and references patent at once to the man about House. The skit is brought out under the auspices of Messrs. George Gregory and Co., which is a sufficient guarantee of its get-up. The sketches accompanying it are executed with great ability, and form one of the most laughable characteristics of the publication.

COLORADO'S NEW GOLD CAMPS.

By Professor ARTHUR LAKES.

IN the August number of the *Engineering Magazine* is an illustrated article from the pen of Professor Arthur Lakes, the letterpress of which we take the liberty to reproduce:—The fall in the price of silver has naturally given a greater impulse to the search for gold. In the past two years gold has been found in Colorado in places where its existence was before unsuspected. One might almost think that Nature had accommodated herself to the altered state of business affairs, for in some of the long-established camps we hear of veins changing from silver to gold with depth or extension. This seeming condescension on her part may be attributed mainly to the fact that, in silver camps or silver and gold camps, we never hear nowadays of a silver mine. But we do hear, without delay, from every mine that can produce a little gold. If a mine was gold-bearing as well as silver-bearing before the crash, we now hear only of its production of gold. It is a fortunate and remarkable coincidence that the ore bodies of some mines, hitherto silver-bearing only, with extension or increased depth have passed into a gold-bearing combination. In most cases gold is found because gold alone is sought, and gold is heard from because we are interested in gold.

Since the fall in silver, and more especially since the general panic of 1893, great numbers of prospectors have been at work—either on their own account or else "grub-staked" by others—many of whom were well-to-do before the crash, but whose coffers are now depleted. Besides these professionals, with the retreating winter snows, a horde of all classes and conditions have been scattered over the mountains in a happy-go-lucky kind of prospecting. Some of these are well educated business men, who have been compelled by the hard times to shut down their business and take to the mountains as a last resort. With these are a great many of the unemployed labouring class. Probably nine-tenths of this crowd know nothing about prospecting, but it will be strange if, in a country so prolific in natural resources, they do not find something before another year is ended.

Among the various recent discoveries, the gold field of Cripple Creek stands at present far above all others. The Cripple Creek field is not the product of that necessity which we are told is the mother of invention. It happened that, as if to forestall a coming catastrophe, the gold value of Cripple Creek was discovered nearly a year before the storm burst.

In 1891 two important camps came into existence in Colorado almost at the same time—Creede, a silver camp, and Cripple Creek, a gold camp. While Creede rapidly inspired confidence in its value and permanence by the strength of one or two of its rich silver-bearing fissure veins, Cripple Creek was slower in its advance, and business men were cautious about investing heavily in the new gold field. Scientific men were divided on the subject of the permanence of the ore, and even of the depth of the veins; nor are we in a position even now, after more than a year's development, to be positive one way or the other. The nature of the camp is not yet absolutely proved. Few of the so-called mines which so far have produced well near the surface have, by sufficient depth or extension, attained to the dignity of what may be called "true mines," but most of them are "prospects" on a large scale. The depth of the mines in the camp rarely exceeds 200 feet, and the amount of development is rarely over 1000 feet. Few mines have penetrated to or below water level, where important changes in the character of ores from a decomposed and free milling character to one undecomposed, sulphide, and smelting commonly take place. Nor has the lateral extent of the ore deposits been satisfactorily shown by any one mine, though more has been done laterally than in depth. On geological grounds, and from results already attained, the most that can safely be said is that the promise of continuity of the ore deposits and the prospects of the camp in general are favourable.

The quality of the mines might by this time have been well shown up and proved had it not been for the delay in their development by the late long-continued and unfortunate strike just at the time when confidence in the camp hung in the balance, and when gold was so badly needed in Colorado and throughout the country. Yet the number of shipping mines and the value of metal already shipped are remarkable for so young a camp, and speak well for its future. It is not unreasonable to expect great things from this camp now that the ban of the strike is removed, and the mines are again in operation. Hundreds of prospect holes with which the hills are speckled, as by an army of moles, are to be developed and their prospective value more nearly ascertained. Then the arrival of two competing railroads into the district will materially help, reducing the expenses of freight on the shipping ores, and causing to be profitably utilised a vast amount of low grade ore now lying on the dump ore in the reserves.

While one can count with some confidence on the permanence of a newly discovered silver camp, such as Creede, located on large fissure veins, after a few feet of development, one cannot as a rule depend with equal confidence upon a new gold field, although the first few feet below the surface may be extraordinarily rich. The value of a gold prospect cannot be fairly prognosticated until the water line, or the depth to which surface action attains, has been reached. The ores above that point are commonly oxidised, and the gold set free and able to be treated by the cheap and simple process of stamping or free milling. When this surface action "plays" out, which may be from a depth of a few inches to many feet, the ore is usually found in its unoxidised unaltered state as a sulphide of iron or iron pyrites—in the case of gold, with the gold shut up in its matrix of pyrite; in the case of silver, in a sulphide of lead or unoxidised galena. To extract the gold from its matrix demands a much more expensive process than ordinary stamping, which may be done close to the mine,—namely, smelting or roasting, involving transportation to some place where fuel and fluxes are near at hand. Hence, while free gold in the oxidised upper portion of a vein may be milled with profit, though it runs but a few dollars, the unoxidised ore at greater depth has need to be much richer to stand the greater expense of the new treatment. As a matter of experience, the unoxidised ore proves often too poor in gold to pay, notwithstanding that the upper and oxidised part of the vein may have been phenomenally rich in gold and gold specimens. The natural reason for this is that the upper portion of the vein represents the products of natural milling, lixiviating, &c., carried on possibly for thousands of years.

Hence the caution in not banking too quickly on the permanence of an undeveloped gold field, and the unwisdom of erecting large and costly stamp and other mills, on the strength of the richness of a few surface prospects. Thus at Cripple Creek, when the prospects were first opened, a good deal of the surface ore was free gold and free milling. Stamp-mills immediately swarmed, and a concern large enough to monopolise all the milling in the camp was erected by European capital. Very soon it was found that somehow these mills came only within 40 per

cent. of the value attained by assays. In other words, they lost nearly half the miners gold. It was then discovered that only a small percentage of the gold was free milling, and that mainly near the surface. With depth the gold was associated with a matrix of tellurium and was suitable, not for stamping, but for smelting. The result was that soon nearly every mine was shipping most of its ore to the smelters at Denver or Pueblo. The stamp mills at present treat only a small fraction of the general ore, and principally that which is low grade. Experiments of all kinds have been tried on this ore in the camp itself. The most likely one seems to be the cyanide or MacArthur process, which, after reducing the ore to fine particles, dissolves the gold in a bath of cyanide of potassium and precipitates it upon zinc shavings, and separates the gold from the silver by the ordinary cupel and roasting furnace. They claim to be able to save 91 per cent. of the gold by this treatment.

Another reason for not banking too hastily on the permanence of the camp was the peculiar geological occurrence of the veins and ores, so different from those elsewhere that a geologist could not prophesy one way or the other by comparing them with those of any other gold mining district in the west. Some geologists thought the so-called fissure veins or zones of impregnation were "gash" veins and would be limited to the depth of the lava sheets. Others believed them to extend down into the underlying granite to an unknown, but certainly great depth. The latter view is probably the correct one, for on the skirts of the volcanic area we find many veins and mineralised dykes ascending through the granite of a similar character to those in the volcanic sheets, No mine has yet penetrated deep enough in the volcanic material to absolutely prove or disprove either hypothesis. Granted that the continuity of the veins with depth is reasonably assured, it is still an open question whether these veins will become richer or poorer with depth. There are mines in the camp, the size and richness of whose surface ore bodies used to be in everyone's mouth, which are now with depth hunting for their ore bodies which they are supposed to have temporarily lost. In other mines, an exactly opposite state of things is the case. This uncertainty, however, is not uncommon in other mining camps of older date. In the present case, considering the age and slight development, the balance is rather favourable than otherwise.

Cripple Creek is situated near the western base of Pike's Peak, at an elevation of 9400 feet above the sea. It is about 20 miles south-west of Colorado Springs, 100 miles from Denver, and 44 from Pueblo. The district is characterised by smooth, rounded, rolling hills, sparsely wooded, intersected by numerous small valleys and gulches. The productive area, which is constantly being enlarged on its outskirts by fresh discoveries, is about 6 miles long by 3 miles wide, and comprises about 18 square miles. The float, or oxidised, porous, rusty rock, purple streaked or ochre yellow, which so abundantly covers the hills, early attracted the attention of passing prospectors, but as they could locate nothing "in place" from which this float came, nothing was done in development. In the "sixties" Dr. Hayden's geological exploring parties passed over the area and scanned its geological features, but appear to have had no suspicion of its metal-bearing qualities. In 1874 a shaft was commenced in Arequa Gulch, and abandoned at a point near which there are now good mines. In 1879 a tunnel was begun in Poverty Gulch which had just managed to miss the ore bodies of the present Gold King, one of the richest mines in the camp.

In February, 1891, some Colorado Springs men determined to test the district, and took up several claims, which promised so well that, during the following spring and summer, news having spread that there was something in Cripple Creek, many prospectors flocked in, and by the close of the year there were 2000 people scattered over the region like a pack of hounds hunting a fox. By March there were 4000 people, and by June 8000. During 1892 the progress of the camp was rapid, work being confined mainly to the location and establishment of claims, and testing their values. In the course of that year some ten or a dozen mines became regular shippers, and their output reached a total of $583,000. In 1893 the total production was $2,406,980, of which $350,000 was for the month of December alone.

Thus, in a remarkably short time after its discovery, the camp developed from prospect holes, assay and mill run tests, into a regular producer and shipper. The main obstacles were high price for treatment, saving of values low, cost of shipment high, the peculiarities of the ore we have alluded to, and not enough development to prove permanence and warrant large investment. Added to this was the absence of railroads. It was soon found to be, in one respect, a "poor man's" camp, because pay ore was often found at "grass roots"; on the other hand, with depth, the ore was found to need an expensive mode of treatment.

The social condition of the camp at this time is thus sketched by a western newspaper: "There are psalms on the hillside in a gospel tent, with 'hi, hi, hi! keep her going' down below; a prayer meeting in one tent and in the next 'raising of old Ned right out by the hair.' Families, women, and children are beginning to come in. Everyone comes to work for himself, and put down a hole somewhere. They come by coach and scatter over the hills. A court house in a frame cabin is erected, and the camp boasts a justice of the peace, a constable, and other 'frills.' The consequence of this painful state of affairs is that no one is allowed to carry a gun. A shocking falling away from frontier standards and depressing to Easterners who pack in their arsenal on a mule in order to be 'properly bad.' Old-time miners shake their heads gravely and doubt if the camp will be any good because no one is killed yet."

As regards the general geological features of the mining region, it is an oval area among the lower granitic hills at the base of Pike's Peak, covered in places to a considerable depth—probably 1000 feet or so—by volcanic lavas resting on granite, doubtless filling many an old waterworn granitic valley and submerging many a granite ridge and peak. This lava may be of two or three or more varieties, representing successive and different flows, from many different fissures and orifices. The prevailing rock is a grey volcanic *breccia*, composed of angular fragments of lava, cemented together by a lava paste. These flows appear to have been penetrated by dykes of more recent lavas ascending through fissures. These dykes and fissures are the principal ore carriers. On the outskirts of the volcanic sheets, where erosion has removed the surface lavas and bitten deep into the underlying granite, we find the stumps of numerous mineralised lava dykes disclosing some of the sources of the lava flows. Still later movements appear to have taken place, opening fissures and shattering the rocks. These fissures and the crevices in the shattered rocks were filled with ore and vein matter, forming the so-called veins or impregnations. The varieties of lava have not yet been scientifically determined, but they are generally supposed to be phonolites and andesites, together with some eruptive and porphyritic granitic.

The ore deposits for the greater part occupy lines of fracture and fissure in the lavas, or impregnate lava dykes. Some occur in fissure veins in coarse red granite, or at the junction of granite with a lava dyke. The ore fills the interstices in a lava dyke, or occupies a fissure in the lava sheets. Or it occurs in sandy, clayey matter on either side of a dyke, or it occupies the line of a fissure between more or less distinct walls, running off into every available crevice of the shattered wall rock—more often lining the faces of crevices than permeating the rock itself. In some mines there is but one vein or line of mineral impregnation; in others, two or three distinct and parallel zones or veins. The prevailing strike or direction of the veins, as well as the dykes and cleavage of the granite, is to the north and south, or a little east or west of north; the dip is usually very steep, often nearly vertical. Occasionally there are cross veins having an east and west direction. The veins are liable to be faulted, to fork and split, and to enclose "horses." In some mines the ore body is so scattered among the crevices of the rock that none of the veins are large enough to work separately, or pay to work collectively. Large bodies of ore have been found near the surface and developed as open quarries. With depth some of these have greatly diminished, or even temporarily played out. The ore bodies in few mines are continuous for a great distance. They lie in patches or chutes, often with long intervals of barren rock between.

The width of the vein matter between walls may be from a few inches to several feet, and the pay streak likewise, widening and pinching and temporarily playing out with depth or extension, to be renewed again. In some few mines the so-called vein consists of lava clay with a remarkably regular vertical cleavage parallel to the walls. The lines of cleavage are filled with iron and manganese stains and quartz containing the ore. This vein lava often assumes the fineness and hardness of jasper and is called jasper ore. In granite the vein may be simply a decomposed quartzose granite between walls of red granite, with seams of clay and rich sand in free gold. Again, a lava dyke may occupy the space between the granite walls, and the ore lie at the contact between the lava and porphyry on one or both sides of the dyke. The granite seems the most affected of the two rocks by the ore solutions which have bleached and decomposed it, leaching out some of its constituent minerals, such as mica, and replacing them with metal or with quartz, pyrites, and flourspar. Black oxide of manganese, iron oxide, fluorspar, and quartz are commonly associated with the precious metal. The quartz is at times milky and opaque, of an opaline character; at others it forms crystalline geodes, the crystals sometimes of an amethystine colour. The highest values are commonly in a soft, clayey, sandy "gouge," which, when panned, shows a large amount of bright free gold. The purple fluorspar is sometimes rich, sometimes poor, in gold. The porphyry and wall rock at times is impregnated through its mass with minute iron pyrites, which does not, as a rule, carry the highest values. The gold itself may be found free, especially near the surface, associated with iron or quartz. With depth it is seldom free, or visible, but is contained in bright silvery specks of tellurium lining fractures in the rock. The telluride (popularly called sylvanite) is the main gold staple of the camp. When the tellurium is roasted, the gold appears in globules on the rock. This gold is remarkably pure, with very little alloy of silver. When free it is generally rusty.

Besides the ore found in veins in the rocks, there is quite a large area that would be valuable placer ground but for the paucity of water in the district. Singularly enough, two mines struck the most powerful bodies of water we now have in the camp, in developing their veins. In one case the flow was so strong and continuous as to supply two or three mills in the gulch below. The water was so charged with arsenic and other mineral salts as to be undrinkable. In the other case, the water which issues from the fissure vein of a mine on top of a hill was found to be quite pure. Despite the lack of water in certain localities the earth has been thrown up in mole hills, and washed by rockers and other devices, with considerable profit, the water being brought in barrels, or else the dirt carted to distant streams and washed. The placer material consists of small, sub-angular pebbles, mixed with a "back sand" or magnetite. The gold is not much water worn, but angular. Nuggets as high in value as $33 have been found, and men have made from $1 to $5 or $10 per day.

There are in the Cripple Creek camp about 30 shipping mines, of which perhaps a dozen are dividend-paying and a few more self-supporting. The good mines are for the most part very good mines, putting out very rich ore. Others, again, are doing well, with an occasional very rich pocket. In most mines there is to be found, with the rich ore, a good percentage of medium low grade, and some very low grade: $20 ore may be considered as medium low grade, and $10 ore as quite low grade, while $5 ore is scarcely reckoned as of any value. This depends upon whether the ore is free milling, or a telluride and smelting ore. In the former case $5 ore would pay well, while in the latter $20 is as low as is profitable.

The high grade ore ranges all the way from $75 up into the thousands. Some mines are steadily shipping ore worth $200. The camp at present is rated at a $100 grade, partly because that is the real average grade of many of the mines, and partly because little short of that value is at present shipped, the arrival of the railroads being awaited before the shipment of ore of lower grade. A few statistics will show the general character and value of the camp. The total output for 1893 was about as follows:—

15,550 tons smelting ore, valued at.. ..	$1,840,540
34,348 tons of mill ore	519,300
37 lbs. of pure gold from a single mine ..	11,840
Placer gold	28,000
Cyanide mill product	7,500
Total	$2,407,180

The output for 1892 having been under $600,000, a gain is shown of over 300 per cent. for 1893. But for the labour troubles it was hoped and estimated that the camp would produce some $5,000,000 or more during 1894.

For the first year of the camp's history, it is said, no word of discontent was heard. Men worked nine hours, including a half-hour intermission for dinner, for $3 per day, until the arrival of bodies of Coeur d'Alene miners and professional agitators, who persuaded them that wages ought to be $3 for an eight-hour day. The Cripple Creek miners were receiving the highest wages paid for mining in Colorado, $2·50 to $3 for ten hours work being the average elsewhere. A large body of the miners having been persuaded to join the miners' union, they became aggressive, refused to work, prevented others from working, and attempted to dictate to mineowners. The owners for the most part declined to be dictated to, and shut down their mines, and the feeling grew bitter on both sides. The union men having the upper hand, the rest had to submit under intimidation, with the result of paralysing business. It was felt that a crisis was impending, and it began to come towards the last of May, when the new railroad, having reached the outskirt town of Victor, brought 100 well-armed deputies. Their arrival was the signal to the strikers to blow up one of the mines with dynamite. The miners had fortified the hills in every direction, and were well organised and well armed, so that the handful of deputies would have been powerless to cope with them. The latter, therefore, retired to await reinforcements. A slight skirmish occurred between the deputies and a body of miners, in which two men were killed and several wounded. In June, after demonstrations in force by deputy sheriffs and the militia, a compromise was effected, and most of the mines were re-opened.

The effect of the strike was for the time being a paralysis of business. Several mines which had been operated on lease, however, were not interfered with by the strikers. Besides many prospects are being developed, some of which doubtless are to become important mines of the future. Despite the strike, the size of the town has nearly doubled since last year. The population in the district now numbers about 10,000. The streets are crowded nightly with employed and unemployed, and by a throng of loafers, both professional and enforced. The worst feature of a strike of this kind is not so much in the loss of money and time, as in enforced and long-protracted idleness. One who sees hundreds of men loafing outside the saloons with blear eyes and dilapidated frames, and a general slouchy air, wonders that they could ever have been or could again become industrious, active, bright-eyed miners. It is impossible to walk through a camp in this condition without feeling its depressing atmosphere.

Most of the other new gold camps in Colorado are so infantile that little can be said of them or of their future. Some of the old camps have become rejuvenated and freshly gilded, and are doing better than they were. Some, generally considered as purely silver camps, have accommodatingly found gold. Not a stream that flows from the great ranges but will pan and show some "colour."

The Leadville gold belt, recently discovered, was credited last November with producing at the rate of $2,000,000 a year. Gilpin county in 1893 produced upwards of $2,000,000; Clear Creek county produced $300,0000; Summit, $1,000,000; and Boulder and San Juan about the same. In Park county old workings, both on veins and on placers, have been reopened with profit. In Gunnison county promising gold discoveries have been made on Goose creek and Ohio creek. Silver Cliff, in Custer county, has also swelled the "golden tide." At Creede some of the silver mines with depth have shown gold. Some 50 small camps have been opened up in 20 counties.

At Leadville the gold belt passes through Breece Hill and Idaho Park, and along the Mosquito range for some miles in a general north and south direction. The Leadville region is one of porphyry and limestone. At the contact of these rocks, the lead-silver ores have hitherto been found. In somewhat similar contacts gold is now found associated with silver, also between two porphyries and in fissure veins and impregnations of the porphyries. At Goose creek, Gunnison county, veins occur in a volcanic breccia and in granite. The gold is free milling and is also associated with copper and iron pyrites. On Ohio creek placers are tunnelled down to bed-rock, yielding at times from $15 to $30 per ton. In the La Plata mountains, in south-western Colorado, large placers have been found, panning, it is said, from 50 cents to $1 per pan. Theses placers have been traced to gold veins in places on the hillside, the ore of which was low grade but plentiful. In Park county, on Crooked creek, rich gold float has been found.

From the top of Mount Pizgah, a very prominent peak above the town of Cripple Creek, one looks west over a low rolling country composed of lavas and granite, covering many square miles, and extending southward to the Arkansas river canon and northward to the southern end of the basin of South Park. This volcanic region, after his experience with Cripple Creek, is highly suggestive to the prospector as a likely one. Towards its north-western limit a small camp called Balfour has been opened on the strength of a few prospect holes, showing moderate assays, and a general mineralised character of the eruptive rock as at Cripple Creek. This may or may not prove, with development, to be a sister of Cripple Creek.

Colorado has no little "grit" in the make up of its citizens. Driven out at one point, they are up and at it again at another. At one time Colorado was an important cattle-raising state. This business failed, and it became a silver state. This, too, has temporarily failed. Attention was turned to its great coal fields, clays, building stones, and baser metals, and now it is not improbable that ere long it will be widely known as a gold-producing state.

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East Worcestershire Waterworks, 2½ per cent. per annum.
Oldbury Railway Carriage and Wagon Ordinary, 2½ per cent. per annum.
Roburite Explosives Co., 5 per cent. per annum.
Roodepoort United Main Reef Gold, 10 per cent.

THE WEST AUSTRALIAN GOLD FIELDS.—We hear on good authority that a company entitled the West Australian Gold Mines (Limited) will shortly be floated. The founder is Mr. Albert F. Calvert, the well-known mining engineer and explorer, who probably knows more about this wonderful colony than any one else. It is well known that he is a prolific author of works dealing with the mineral wealth of Western Australia, in which he has embodied from time to time his convictions of the prosperous future that lies before the gold mines. We hear that he has placed before the directors of the forthcoming company claims of which he has the highest opinion, and which he is sure will produce considerable dividends to the shareholders. Mr. Calvert is now making arrangements for an early visit to the colony.

THE MINERAL WEALTH OF COLOMBIA.

ABSTRACTS FROM OFFICIAL REPORTS.—A SUMMARY OF MINING LAW.

IN his report on the mineral products of the Republic of Colombia to the Foreign Office, Mr. G. Jenner remarks that ever since the conquest of the country the mines of Colombia have poured forth a constant stream of gold. Until the discovery of the rich deposits of California and Australia this country took the lead of all others in this respect, with the single exception of Brazil. In spite of the vast extent of the latter Republic, her production of this metal down to 1848, according to Professor Soetbeer, only exceeded that of Colombia by less than ½ per cent.

	Amount.
Brazil gold	$684,456,750
Colombia gold	681,339,500

A clear proof of the greater wealth of the mining districts of Colombia.

According to Don Vicente Restrepo, whose careful and well-authenticated work on the mines of Colombia has furnished me with the principal data for this sketch, the highest average annual estimate, from the discovery of the mines down to the year 1886, can scarcely have exceeded £600,000, whilst that of the year 1891 hardly falls short of £850,000, as shown by the official tables giving the exportation for that year.

As the production for 1885 was estimated at less than £500,000, and as the succeeding years show a steady increase until the figures of 1891 are reached, it may fairly be assumed that the gold mining industry of Colombia is entering upon a period of prosperity which may do much to restore the country to solvency. It must not be forgotten, however, that two conditions are absolutely essential to ensure this result. First, the continuance of peace; and, secondly, the amendment in a sense favourable to the working of the mines, of all laws tending to retard the development of this important industry. Especially in respect to alluvial mines, which have thus far furnished more than three-fourths of the gold produced by Colombia, it is essential that some modification of the existing law should take place.

At present, although all the forms of the law may have been complied with by the miners, and although they may have invested large sums in machinery and other requirements, their work may be stopped on the complaint of any village, or town, or agricultural, or industrial establishment, complaining of the pollution or diminished supply of the waters habitually used. The law provides that in such cases the mineowner must furnish a sufficient quantity of pure and potable water, the decision resting with the municipal authorities in regard to centres of population, and in respect to agricultural or industrial establishments with three experts, one of whom is named by the head of the establishment, one by the mineowner, and the third by the municipal chief of the district. In most cases the damage done is insignificant, as the water that flows from the mine, after being used by means of the "monitor," to wash gold out of a gravel slope, adds but very little to the muddiness of the stream it flows into. Nevertheless, in all the cases with which I am acquainted, the foreign miners have shown the utmost readiness to supply the pure water required by the law. What they complain of is the dilatory nature of the procedure to which they are subjected, and especially the fact that, owing to the law having placed the decision practically in the hands of the municipal authority, who appoints the third arbiter, until quite recently they risked being placed in the position either of paying ruinous sums to buy off their opponents, or of leaving their mines unworked. A proposal to facilitate the settlement of such cases was brought before the last Congress by a senator of unimpeachable honesty and impartiality, but failed to receive the assent of that body, chiefly owing to the clamour raised by persons who are interested in maintaining the existing order of things. If this measure had passed, all legitimate interests would have been as fully protected as under the existing law, but the procedure would have been rendered simpler and more expeditious, and the decision in the first instance would have been withdrawn from the petty local authorities, and vested in the Governors of the States. Thanks to the great interest that the Acting-President of the Republic, Dr. Caro, takes in everything connected with the progress of the country, it has been possible to obtain the regulation of the law by decree in such a manner that the first decision may rest with the Governor, an appeal lying, as previously, to the Minister of Public Works. This amendment will doubtless be of great advantage to alluvial mining companies, as it will tend to put a stop to many complaints of a frivolous and vexatious character.

Inquirers like Don Vicente Restrepo are fully conscious of the necessity of appealing to foreign capital for the development of the Colombian mines. "Colombia," he says, "is a new country which is wanting in the means invented by civilisation for the acquisition of wealth. Not more than six of her citizens (in 1888) have fortunes exceeding $1,000,000, and there are not 30 more who possess $500,000. These few who, by dint of labour, have managed to put together some capital, do not dare to risk it in undertakings of a speculative character, and of whose chances of success their want of knowledge renders them unfit to judge."

The suspension of certain alluvial mines in California has been freely quoted as a conclusive proof of the damage this branch of industry inflicts upon agriculture, but there is no analogy between the two cases. In Colombia the damage inflicted, if any, is of the most trifling character as compared with the benefits of alluvial mining, and, moreover, the mineowners are willing and able to give full compensation to the few who suffer from their operations.

Under the Spanish dominion the gold fields of Colombia were admittedly the richest in the world, and down to the year 1848, when the immense wealth of California was discovered, they furnished fully one-third of the whole supply of American gold. It is well known that the Spaniards worked the mines in a most primitive manner, and that the gold they extracted was almost entirely derived from the surface of vein or alluvial mines, from placers, and from washing the sands of the rivers in pans. I am told that the quantity of gold thus obtained in the mining camps of California and Australia is totally insignificant as compared with the results of scientific working with the help of modern machinery. If this be the case, it can scarcely be denied that what with scientific prospecting, of which the Spaniards knew hardly anything, and scientific appliances, the amount of gold that is still to be gathered from the Colombian soil must be infinitely greater than that which was dug up during the Spanish occupation.

Attempts have undoubtedly been already made to resume the work of some of the richest mines; in some instances they have failed, but in others they have been successful. It would be unfair to attribute these failures solely to incapacity on the part of the engineers who directed the undertakings; in some cases they had to deal with mines that had been flooded for many years; in others the Indians, who destroyed the works and massacred or dispersed the miners, took every precaution to conceal the position of the deposits; in others again the Spanish owners, for the sake of the metal they contained, cut down the pillars that supported the roofs of the tunnel, which fell in, bringing with them masses of superincumbent rock.

In other cases, however, the failure of foreign companies is due to preventable causes. "In general," says Don Vicente Restrepo, "they enter upon their undertakings overburdened with fictitious capital divided amongst promoters, commission agents, and stockbrokers; often they fail to take into consideration the special conditions of the country. They begin by sending out a multitude of officials and workmen, spending much money in salaries and the expenses of journey and maintenance. Once established in the district, those men frequently become exacting, take to drinking, and are a constant source of embarassment. Moreover, the companies do not consider that our roads are narrow, broken up, and everywhere difficult to traverse, and that only light loads can pass over them, but they send out heavy machinery, whose massive pieces are doomed to lie rusting on the banks of our rivers. Such masses of iron, mute witnesses of disasters due to want of foresight, are frequently met with. Sometimes costly buildings are put up regardless of all expense. There is an instance of a foreign manager who arrived with a store of wines and preserved foods, and built himself a house full of conveniences in a desert region; when his foreign provisions came to an end he took his departure. . . .

"We have known instances of engineers sent out here who could not handle a prismatic compass nor distinguish ores one from another, much less assay them.

"In this way millions of dollars have been squandered by foreigners on mining undertakings which, managed with judgment and economy, would have turned out well."

Antioquia.

The following statistics for the production of gold in Antioquia from the beginning of the sixteenth century to the year 1890 have been put together with much pains by Señor Restrepo, who, in a country like Colombia, where the science of statistics is thought but little of, has the rare merit both of appreciating the value of figures, and of handling them with great care and accuracy:—

Gold Production of Antioquia.

	Amount.
Second half of—	
16th century	$ 10,000,000
17th ,, ...	50,000,000
18th ,, ...	64,000,000
1801 to 1890	137,000,000
Total	$261,000,000

The production of gold has, consequently, been steadily on the increase. In 1858 it reached $1,500,000; in 1886 $1,600,000. The advance then became more rapid. In 1882 the production of gold and auriferous silver of Antioquia had risen to $2,500,000, and in 1890 it attained $2,800,000. In Señor Restrepo's opinion even this latter result is far from satisfactory, as he holds that under proper conditions the total output of the department might be at least twice the amount extracted in 1890.

Cauca.

Yet richer in mineral wealth than Antioquia is the department of Cauca. Owing to their still greater inaccessibility, and in many cases to the deadly nature of the climate, some of the best mines of this department are less well known, and have certainly been less assiduously worked, and yet their gold production at the beginning of the present century was 50 per cent. of the whole output of Colombia, and the total amount extracted from the Conquest to 1890 is only 9,000,000 gold dollars less than that furnished by Antioquia.

The following table shows the amount of gold extracted from the department of Cauca from the discovery of the mines down to 1890. The Choco is given separately; that burning region was inhabited by such untamable and ferocious Indians that it was only after 1654, when the Jesuit missionaries entered the country, that it was possible to work the rich alluvial deposits:—

	Amount. Choco, Dollars gold.	Cauca, Dollars gold.
16th century	—	25,000,000
17th ,, ...	20,000,000	37,000,000
18th ,, ...	52,000,000	38,000,000
19th ,, ...	43,000,000	37,000,000
Total	115,000,000	137,000,000

It may be inferred from this table, that if the Choco mines had been worked at as early a period as those of the remainder of the Cauca, that district would have furnished at least half the total product. At the beginning of the present century, the annual return of the Choco was computed at $1,000,000, as against $700,000 for the rest of the Cauca. At that period 10,000 negro slaves are said to have been kept constantly at work on the alluvial deposits of the Choco district.

Tolima.

The department of Tolima is shut in between the Eastern and Central Cordilleras and the River Magdalena. The whole of its territory is rich in alluvial deposits of gold, but the vein mines, although very numerous, have not hitherto been found sufficiently productive to repay working them on a large scale.

Although the total product of the Antioquia and Cauca gold mines up to the present day has been fully five times as great as that of the deposits of Tolima, the latter department, owing probably to the advantages it possesses in respect to climate and comparative facilities of communication, has thus far been the chief field for English and United States mining companies in Colombia. The resources of this department are indeed too well-known in England for me to deem it advisable to dwell upon them at any length. Full details will be found in Senor Restrepo's work, and there are numerous reports published in English that will convey the required information in far clearer language than any I can command. In the opinion of an English mining engineer, who is now at the head of one of the largest mining concerns in the country, it only needs some modification of the mining laws to lead to such a revival of the industry in this department as to make it an important factor in the prosperity of Colombia. The principal silver mines of Colombia are situated in this department, and under that metal I shall endeavour to give some account of the most celebrated ones (Zancudo, Santa Ana, La Plata, Frias).

I have no detailed accounts in regard to the gold production of Tolima, but the total amount it furnished from the sixteenth century down to 1890 was $56,000,000 gold.

(To be continued.)

THE following appears in the *North Queensland Register*:—"Western Australia and Paraguay are failures for a time. There is plenty of gold in the Western colony, and fine opportunities for the development of 'mateship' in Paraguay, but the times are not favourable. West Australia wants capital (British preferred), and Paraguay well-to-do £60 minimum enthusiasts, whose zeal would exceed their cash. Notwithstanding the able assistance of Lord Percy Douglas and Mr. Lane, the outlooks are not too favourable."

JOINT-STOCK COMPANIES.

NEW REGISTRATIONS.

THE following are among the joint-stock companies registered at Somerset House since our last notice:—

Edwin Bray Gold Mining Company (Limited).—Registered 23rd July, by Edward F. Turner, 101, Leadenhall-street, E.C., with a capital of £75,000, in £1 shares. Objects: To enter into an agreement between the Edwin Bray Gold Mining Company (Limited) (in liquidation) and its liquidators of the one part, and this company of the other part, and to acquire and turn to account lands, estates, properties, mines, mineral grants, &c., in the South African Republic and elsewhere. There shall not be less than five nor more than seven directors. The first are:—J. Browne Martin, Viscount Grimston, General Sir John L. Vaughan, K.C.B., Edward A. Preston, Wolstan Trubshawe, and Francis O'S. B. Reade. Qualification, 200 shares. Remuneration £105 each per annum.

New Coal Brick Syndicate (Limited).—Registered by Ernest J. C. Savory, 2, Clement's Inn, Strand, W.C., with a capital of £50,000 in £1 shares. Object, to acquire and undertake the property and liabilities of the Coal Brick Syndicate (Limited) for such purpose to enter into an agreement with the Brick Syndicate and Edmund C. P. Hull and Charles S. Sowerby, its liquidators, and to carry on the business of briquette machine manufacturers, colliery proprietors, coke manufacturers, ironmasters, iron founders, steel makers, steel converters, miners, smelters, quarrymen, engineers, brickmakers, coal, stone, and tar merchants, asphalte makers, &c. There shall not be less than three nor more than seven directors. The first are Edmund C. P. Hull, Wm. M. Blyth (4, Fenchurch Avenue, E.C.), John L. Clark, and Robert Middleton. Qualification £100. Remuneration £1000 per annum, divisible, and 5 per cent. of the dividend.

Harvey Continental Steel Company (Limited).—Registered 24th July by Ashurst, Morris, Crisp, and Co., 17, Throgmorton-avenue, E.C., with a capital of £120,000, in £10 shares. Objects: To enter into agreements with the Harvey Steel Company, of New Jersey and New York, and with John Brown and Co., (Limited), and to carry on the business of manufacturers of armour plates and plates of all kinds, steel and iron masters, iron and brass founders, tinplate makers, smelters, boiler makers, machinists, millwrights, metallurgists, engineers, colliery proprietors, shipowners, &c. There shall not be less than two nor more than nine directors. The first are to be nominated by the signatories to the Memorandum of Association except the nominees of the Harvey Steel Company and John Brown and Co. (Limited), who are Edwin M. Fox, and Chas. E. Ellis. Qualification, £500. Remuneration as fixed by the company.

Victoria Colliery Company (Limited).—Registered 25th July by Waterlow Brothers and Layton (Limited), Birchin-lane, E.C., with a capital of £10,000 in £20 shares. Object, to acquire certain mines and mining rights in the county of Lancaster, and to carry on business as ironmasters, steel makers, colliery proprietors, engineers, and ironfounders, &c. The first directors (to be not less than three nor more than seven) are R. Grundy, J. Bromsiow, E. Farrar, and J. Forshaw. Qualification, £500. Remuneration as may be fixed by the company.

Corrwg Rhondda Colliery Company (Limited).—Registered 26th July, by Norton and Co., 57½, Old Broad Street, E.C., with a capital of £12,000 in £10 shares. Object, to acquire the benefit of certain arrangements for the grant of a lease or a right to work coal or other minerals at Blaengwynfi, in South Wales, made by E. Plummer with the Earl of Jersey, and to carry on the business of ironmasters, colliery proprietors, miners and smelters, &c. The first directors—to be not less than two nor more than four,—are H. T. Norton (Chairman), J. P. Hurst, T. F. Thomas, and W. M. Lewis. Qualification, £500. Remuneration, £400 per annum divisible.

Streatham Prospecting Syndicate (Limited).—Registered by Hollams and Co., Mincing Lane, E.C., with a capital of £10,000 in £1 shares. Object: To enter into an agreement with J. W. Corderoy and the Anglo-French Mashonaland Expedition (Limited); to carry on business as explorers and prospectors, in South Africa or elsewhere. There shall not be less than three nor more than five directors. The first are J. W. Corderoy, E. G. Mocatta, E. Wagg, and L. Brailsford. No qualification specified. Remuneration, £160 per annum, divisible.

Wrought Iron Foundry and Machinists' Company (Limited).—Registered July 28. Capital £10,000, in £5 shares. Objects: To acquire and take over as a going concern the machine works and iron foundry known as the "Eagle Iron Work's," Stalybridge, and to carry on the business of machine makers, iron founders, &c.

THE BALUCHISTAN PETROLEUM FIELDS.—These fields, which were taken up by a Syndicate after being thrown up by Government, are progressing satisfactorily under the new management. The only drawback at present is prohibitive freight to convey the produce from Khattan to the nearest railway station. We hear that negotiations are in progress with the authorities of the N.-W. Railway, and it is anticipated that should a reduction in the freight be obtained a thriving industry will result.—*Indian Engineering.*

AN excellent shoot of gold has been struck in Bayley's South Extended in a reef parallel with Bayley's. The new reef is 4 feet thick and contains actual nuggets weighing up to 1 dwt., says the *Miner's Right*. At the 100 feet level some wonderfully rich stone is exposed at Bayley's Reward. The output of 600 ounces per week is being steadily maintained.

THE following is an extract from the *Star* of Johannesburg, of 14th July last, which has not yet been officially confirmed:—"Smitsdorp, Wednesday (Special): At the Eersteling Mine at 160 feet, the reef, which was wanting at 100 feet, has been recovered, and is 7 feet wide. It has been driven on for 130 feet. Samples panned varied from 4 dwts. up to 5 ounces, and even 400 ounces to the ton."

THE returns of the Kolar gold fields for June, as regards Mysore and Ooregum, show very disappointing results, says the *Indian Engineer*. Mysore produced 3395 ounces, being the smallest yield for a very long time. Its yield was over 5000 in January, and till now has never since in any month fallen below 4000. Ooregum yielded 5100, its monthly out-turn from January to May ranging from 5905 to 6666.

THREE blocks of ground have been let on tribute in the No. 1 East Sunburst Mine. One block above where Pearson, Clarke, and party are working, the percentage being 15 per cent. on the first ½ ounce, and 1½ per cent. for each 5 dwts. over; Church and party have the block over No. 1 east level, at 8 per cent. for the first ½ ounce, and 1½ per cent. for each 5 dwts. over; and Stapleton and party, a block 100 by 80, at the back of No. 3 level, on the same terms as the last.

CAPTAIN ISAAC P. GRAGG, President of the Eastern Development Company (Limited), has just returned from Cape Breton, where he participated in the annual meeting of the Mining Society of Nova Scotia, with the Mining Society of the province of Quebec as their guests. After three days' inspection of the collieries of the Dominion Coal Company (Limited) and the General Mining Association, the societies visited the Coxheath copper mines, and many of the visiting mining captains, Government officials, geologists, and experts went below ground in shaft No. 2 and verified the statements of the company as to the width of high grade ore in "Vein B," besides going over the surface developments, which show unusually large croppings of the several veins.

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The buyer pays no fees whatever, and there is no incentive to advance the price beyond the original figures at which the price and commission have been agreed upon with the seller.

It is not intended only to negotiate the sale of an entire property but interests in such may be sold or money obtained for development work.

This Company especially solicits the business of making reports or examinations for non-resident mine owners on any of their mines in the United States, and obtaining special information as to their condition and so forth (said reports being confidential).

Those who conduct the business of the Company have had long experience in mining operations, and it is their intention to place the Company in a position to inspire the confidence of all who seek its assistance in its integrity and fair dealing.

We respectfully refer to any Bank in the City of San Francisco and to the Anglo-Californian Bank (Limited), London, as to the standing of the Board of Directors of this Company.

Descriptions of properties for sale with maps, reports and all necessary information, are left on file in the office of the Company. Abstracts of such reports with prices of mines will be furnished upon application.

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LONDON: AUGUST 18, 1894.

MODERN CONCENTRATING MILLS.

TAKING up our description of a modern mill at the point where fine concentration may be said to commence—viz., the re-crushing of the "middlings," or if the mill be erected for the purpose of treating an old waste heap, the crushing of the tailings, the first matter for consideration is that of the pulveriser or crushing mill to be employed. In mills for treating auriferous galena, or blende, another set of crushing rolls is frequently employed, and often does effective work. That efficiency, however, largely depends upon the state in which the surface of the shell is kept. If through irregular feeding this becomes grooved, it is evident that some of the mineral will pass through without being crushed at all. Endeavours have been made to turn up the surface of the shells, but owing to their exceeding hardness this is not often successful. The best system is to employ only the best material, and to insist upon having a feeder which will spread the mineral in a thin even sheet between the shells as is done with the Krom rolls. Stamps are often employed for the recrushing of the ore, and for certain kinds of mineral are, perhaps, the best appliances. After stamps come a whole host of patent pulverisers, headed by the Huntington mill, which is a long way ahead of its competitors in this line. Whichever machine is employed it must not be forgotten that the object in view is still the same—that is, the liberation of the fine grains of mineral without reducing them to absolute dust.

The crushed material is now too fine to be sized in trommels, and must be classified by hydraulic means in pointed boxes—spitzlutten or spitzkasten—the result being the production of groups of grains of ore which will differ from each other in volume and density, but will fall in a current of water with equal velocity and group themselves at the bottom. The separation of the rich from the poor in such grains having an equal velocity of fall in water is effected by taking advantage of the greater resistance which grains of large diameter will expose to a washing current of water in comparison with the smaller diameter and greater weight of the richer grains. The hydraulic classifiers employed consist in principal of a box some 10 or 12 yards long, with an inner lining converging to a point at the bottom, but leaving a longitudinal slit through which a constant upward current of water ascends; and this in conjunction with the stream of slimes whose speed is greater at the entrance than at the exit of the classifier, acting upon the tendency of the mineral matter to fall, according to its gravity and size, classifies the grains which pass to the slime jiggers through syphon tubes. The coarser slimes are treated on high speed jiggers, having a short stroke. These jiggers, however, differ from those employed in coarse concentration in the nature of the motion given to the pistons. In the latter an ordinary eccentric is employed for this purpose, but for slime jiggers, the percussive lever motion is preferable, as by this means a swift downstroke is given which opens up the beds and a slow up stroke, allowing the ore time to settle and classify itself. These jiggers are remarkably successful in concentrating slimes, and could be employed for the purpose of treating tinstuff in the Cornish mines. The proposition of using jiggers in Cornwall is not a new one, and we remember that a young engineer who proposed their introduction several years ago at a meeting of Cornish mine managers was sternly rebuked for his presumption by a worthy old captain, who got up and said that: "Tin had an affinity for its nature," and that if you separated the one from the other by means of these new-fangled machines, nothing but ruin and disaster could follow. These sentiments were much applauded at the time, but we have never yet fathomed their mystic import. It is only the coarser slimes which can be treated by jigging; the finer ones must be worked upon some form of concentrator. Formerly round buddles were practically the only appliances used for this purpose, and held their own for a long time until men of an inventive turn of mind perfected more efficient, economical, and automatic machines.

The number of these inventions is legion, but we will only notice those which are in more general use. The most perfect modern form of the old round buddle is the Linkenbach table, a machine with which we have had a long and successful experience. The table is circular, being from 10 to 12 yards in diameter and the surface is formed of perfectly smooth cement supported on concrete or brickwork. The centre is higher than the edges, the slope of the table outwards being 1 in 12. The slimes are fed at the centre in a continuous stream and flowing downward are separated into steriles, middlings, and rich by means of water jets attached to revolving arms. The products are removed automatically as quickly as they are made, and the machine will go on indefinitely. The rich concentrates are left ready for sale, the middlings for retreatment on percussion tables, and the steriles for the waste heap. If two minerals are present, such as galena and blende, then rich concentrates of both are obtained as well as poor middlings for retreatment. The old-fashioned bump or percussion tables are well known and need no special description. Their great inconvenience consisted in the fact that the concentrates accumulated on the table, which, when loaded, had to be stopped and discharged, thus causing delay. This would not suit the ideas of American mining engineers, and they soon knocked out the end of the table against which the mineral collected and allowed the concentrates to fall over into a collecting box below. The table was thus made completely automatic, the concentrates could be removed without stopping the machine, and the products were concentrates at one end and waste at the other. The machines, known under the name of the Gilpin County Concentrator, are largely used at the gold mills at Black Hawk and Georgetown, in Gilpin County, Colorado, and apparently give great satisfaction. The pulp from the stamps first flows over amalgamated plates, and then direct to the concentrators, though in some cases blankets are placed between the two. The machines are thus at a disadvantage, as the slimes are unclassified, but notwithstanding this they are very efficient. Both fixed and percussion tables are not free from faults, and it was soon seen that if the good qualities of both could be combined, a perfect machine would probably result. Step by step improvements were effected until finally we have them embodied under two typical machines, the Frue vanner and the Luhrig vanner.

The Frue vanner is the old fashioned end bump table, provided with a slowly moving india-rubber belt, which forms the surface of the table. The belt creeps slowly upwards, and this motion, together with the end percussion, separates the heavy concentrates from the light tailings. The former are carried upwards over the end into a receiving tank, and the latter are washed downwards off the table by means of water jets. The machine does very efficient work, and is largely employed in concentrating the pulp in gold mills after it leaves the plates, and also in lead mills for treating the slimes instead of the Linkenbach table above mentioned. Many inventors have tried to improve upon the Frue vanner, and some have added ribs to the belt. One of the essential points is that the machine shall be set fair, and that the slimes as fed on shall be of a certain consistency, otherwise they will not flow in a thin even sheet over the surface of the belt. The difficulty in obtaining this thin

layer over the whole of the broad surface of the belt has led to its subdivision into seven narrow belts as in the Woodbury machine which we have had an opportunity of seeing at work recently. In other respects this machine is practically the same as the Frue vanner, and certainly the sub-division of the belt does seem an improvement as it allows greater latitude in the setting of the machine, and the quality of the slimes. Both the above machines are end delivery, and consequently can make but two products, concentrates and steriles. The middlings must either impoverish the concentrates or enrich the tailings, so that if a rich product is desired, the concentrates must be retreated on another machine. For the same reason a mixed ore such as the slimes of galena and blende cannot be separated on one machine. This difficulty was appreciated and overcome by the German engineers, and the resulting machine is the Luhrig vanner.

Here also we have a slowly moving rubber belt with an end percussion. The new feature is embodied in a side delivery, the products being washed off the surface of the belt by means of a spray of clean water supplied from an iron pipe which crosses it obliquely. The light particles flow away at once, but the heavier are concentrated according to their gravity by means of the vibration and the travel of the belt, and are carried along until swept off into one or other of the divisions of a trough placed along the front edge of the belt. By employing a series of these machines one below the other, a most perfect concentration is effected, even of mixed ores, while the loss in the tailings is so small as to be negligable.

We have passed in review only the more prominent machines used in modern mills for concentration purposes. In addition to these, there are numerous others, such as pumps and elevators, which are necessary adjuncts to the mill; but which do not come within the scope of the present review. We have followed the progress of the ore from the moment it was tipped into the mill, until that of its leaving, either in the form of concentrates or waste. The millman will see that all the machines are properly at work, and the assayer will constantly check their efficiency by frequent assays of their products. As yet we have not dealt with the capacity of the appliances, nor the richness of the products; but we hope in a future issue to give instances of modern concentrating mills, describing the ore treated and the products obtained, so that our readers will be able to judge for themselves of the progress made in the art of concentration and the perfection arrived at.

CYANIDE AND GOLD MINING.

ONE effect of the vast improvement which has of late taken place in the processes of gold mining has been to render the industry largely dependent upon the supply of a somewhat obscure chemical product. Cyanide of potassium, which was formerly known only as a material of photography, is now extensively used in the treatment of battery tailings by what is known as the MACARTHUR-FORREST process. The principal development of the cyanide treatment has been hitherto confined to the gold fields of the United States and Witwatersrandt mines in South Africa. Now, however, it is being used to a continually increasing extent in the Australian gold mines, and, with the promised exploitation of the auriferous area of Western Australia, the Antipodes are likely to extend their consumption of the chemical at a greatly more rapid rate. If the price of the cyanide process be reduced to a satisfactory level for mining directors, the economical treatment of tailings is likely not only to stimulate the working of new deposits, but also to lead to the renewal of operations upon gold fields now abandoned as unremunerative. It will be seen, therefore, that the cost of the cyanide process is a matter which involves consequences of the gravest import to the whole gold mining interest. So far as the cost of the chemical is itself concerned, the prospects are happily altogether in favour of reduction. Manufacturers in England and Germany have awakened to the world-wide demand which now exists for the material, and have increased the output to an extent which has already brought down the value. The question of cost, however, depends mainly upon the validity of the patents for the process of gold extraction by cyanide held by the Cassel Company, of Glasgow. These, as our readers know, are in dispute, and a case is even now before the English Courts to decide them. Undoubtedly, the very fact of the dispute is tending to restrict gold mining enterprise, and it will be a good thing when the matter is settled in one way or another. The proprietors of the patents have always shown themselves willing to recognise that a wide use of the invention, rather than a heavy royalty from individual users, represents the most remunerative policy for them. In the Transvaal, however, the cyanide question is complicated, like most others in that Government-tyranised Republic, by the intervention of a State monopoly. Not satisfied with the infliction upon the mining industry of the heavy burden of the dynamite monopoly, by which the cost of working mines is increased by several hundred thousand pounds yearly, nor convinced by the failure of the cement and coke concessions, the Boer Government is now considering a scheme for taking over the manufacture of cyanide and the working of the patents. In view of the liability of every interest in the Transvaal to injury through continual intrigues, and remembering also the Government's reckless setting aside of the Roburite patents, the African Gold Recovery Company cannot be blamed for seeking to protect themselves by a concession of their own. But the mining community has every right to complain if the Government lends itself to making any such arrangement a means of making a further addition to its burdens, which, in the case of many low-grade mines, would be almost tantamount to ruin Moreover, although this fact has been carefully obscured by Government, the proposed concession really embraces only one of the cyanide patents, and would leave the difficulties in the way of erecting cyanide plants by the smaller mines, of which complaint is made at present, very much as they are. Further, the patent which the Government proposes to take over is at the moment the subject of an action in the Transvaal Law Courts to decide its validity. Obviously, such a fact should alone be enough to condemn the proposal, since a Government certainly has no right to anticipate the decision of its own tribunals; but it is claimed besides that the terms of the new monopoly are oppressive in the extreme to the users of cyanide for gold extracting purposes. In the first place, the period of the patent and its attendant royalties is extended 12 years beyond the time fixed by law. Then the concessionaire is given the right to charge a royalty ranging from 7½ per cent. to 25 per cent. upon the gross value of the gold won by the process. The exact percentage is to depend upon the discretion of the Government, which is to take 2 per cent. out of the 7½, and so on in proportion, and one cannot help feeling that this power would be the means of spoliation of a flourishing company, and, perhaps, persecution of a company whose directors had offended the Boer rulers. At all events, it is monstrous that Government should have anything to do with the exploitation of an invention, and it is clear that the projected monopoly would tend to prevent the further perfection of the cyanide process in the future. The Boer Government has lately shown a curious development of its old policy of scarcely veiled enmity towards the mining interest. It has been practically resolved to indefinitely prolong the present position of the foreign capitalists and miners without representation or power of free public protest. President KRUGER has followed the insolences of the Volksraad with the declaration that he is anxious to promote the cheaper working of the mines. Upon the strength of this statement the Johannesburg Chamber of Mines is being urged to adopt an attitude of compromise in respect of this cyanide proposal. The history of the dynamite monopoly, and the terms of the present proposal, should operate against any such policy. It can only be wisely urged upon the mining industry in the Transvaal that it should stand up vigorously against the system of State monopolies and concessions which are now oppressing it.

NOTES AND COMMENTS.

A SERIOUS blow will be given to the exaggerated spirit of Protectionism which has ruled for some time past in America by the measure which has just passed the House of Representatives. Senate and lower house have been in contention long enough to put the people in full possession of the matter at issue, and the ultimate surrender of the latter was wise and prudent in a recognition of the undoubted truth that half a loaf is better than no bread, although half a watch, considered as a time-keeper, may not be superior to no chronometer. Had the lower assemblage stood out obstinately against the measure in its amended form the monopolists would have been the only gainers. By yielding thus the not inconsiderable advantages of the new Bill have been secured to the country, while the benefits of an easier admission of foreign commodities may be safely left to work their effect upon the people. It may seem strange that an enlightened nation like the United States should take so long to learn a few elementary principles of political economy. The exigencies of successive political situations, however, have much to answer for, and were they all laid bare there would be a full explanation of past errors in American legislation.

WHILE it is difficult not to feel regretful that some larger measure of Free Trade—such as was embodied in the original proposal—has not been accorded alike to people and merchants, there is no need for forgetting that the immediate results of the new Bill will be eminently satisfactory. In many instances—such as wool and manufactured metals—the reduction is very considerable, and when it is remembered how small a margin will convert a profit into a loss, the best results from the recent legislation may be confidently predicted. England, more than other countries, will participate in the improved conditions of trade. The period of uncertainty, which has fallen heavily upon our manufacturers, was largely due to the absence of finality about the American tariff. While the air was thick with proposals for the reduction of duties it could hardly be expected that there would be any great eagerness displayed on the part of the importer. Now that the doubt is at an end, and there are more favourable trading regulations, the full force of the returning tide of commercial prosperity, delayed so long, may be hoped for. The spiritless state of affairs revealed by trade statistics of every kind will give place to a renewed activity, and the period of complaint will, in all likelihood, be succeeded by one of placid satisfaction.

MANY unworthier objects of attention may be found for the engineering student than the admirable address of Professor Kennedy, delivered this week before the engineering section of the British Association, upon the training best befitting the career of an engineer. According to the Professor, critical acumen is the most valuable faculty of mind for the engineer. Above all other men it is his function to act where the advantages of several possible courses have to be weighed with the utmost delicacy, and where a keen insight and a nice discretion are absolute necessities. Hence the training best suited to the embryonic engineer is the one which most successfully encourages the growth of these attributes. We could wish to have had more space to quote from what is a high production of its order. Want of space, however, forbids us to do more than make a strong recommendation to our readers to become personally acquainted with it.

A LONG farewell has now to be taken of the May Deep Level Company, which has voluntarily surrendered its individuality to be submerged into the New Primrose Company. The course of affairs which ended in this step is clearly set out in the speech from the chair at the meeting, which we report. Recent developments had revealed the fact that the ore was falling in grade. The discovery came at an unfortunate epoch, reconstruction having just taken place, and there being funds in the coffers for carrying development work to a successful issue. By August, however, the crushings were less per ton than ever before in the history of the company, and this, notwithstanding the fact that the whole of the operations were carried on with the most improved methods and machinery, when everything which could possibly tend towards the success of the company was present in an unusual degree. As the months passed away the position became more and more embarrassing, until at length was commenced the long course of negotiations which ended in the acceptance of an offer made by the New Primrose Company to purchase the May Deep property. Thus the meeting in July at Johannesburg, when the provisional agreement was accepted

SOME interesting particulars of the quicksilver mines in Tuscany are published in a current number of the *Journal of the Society of Arts*. These mines, it appears, have been known from an early antiquity and partially worked. Some evidence, more or less inconclusive, seems to point even as far back as the Flint Age. The discovery, however, underground of some human skeletons, and close by a gold coin with "the image and superscription" of Philip of Macedom, carries us with more certainty back to a period within the scope of early history, but still very remote. The modern revival of mining operations commenced in 1846, and was occasioned by the discovery of some rich specimens of cinnibar in the bed of a torrent. The acquisition by a shrewd speculator of a mining right and the formation of a company immediately followed. Little was done, however, for the first decade, but in the following years the output was increased until by 1876 the production was 1908 cwts. Between that year and 1890 the growth of operations was so rapid that in the latter year the number of cwts. brought to surface was 8873. The bulk of this came from the Siele Mine whose phenomenal yield led to the energetic exploration of the surrounding country, resulting successfully in some cases. One of the most promising of the minor companies is at a place called Capita, where the geological indications are said to be extremely hopeful.

SOME adverse criticisms as to the past expenditure of governmental votes for mining in Queensland has induced a beneficial change in the use to which the moneys are to be devoted. Hitherto the disbursements have taken the form of small prospecting grants for the assistance of personal ventures. An opinion has widely obtained that little or no public benefit has resulted from this use of the common funds. As much has, indeed, been confessed by the authorities, who have shown themselves sufficiently susceptible to public opinion to decree that a change shall take place. Future grants will be devoted to the purpose of carrying out deep sinking in the mines, with the object of finding gold at lower levels than those already sunk upon the fields now under operation. The beneficial nature of this new proposal is apparent at a glance. Numberless disjointed grants, accorded with but little discrimination, may be absorbed with very few useful results to the community. No such unprofitable outcome can possibly follow upon the prosecution of deep level sinking. Much light will inevitably be thrown upon the resources of the colony, and the mining operations wil be more profitably directed than now in the nature of things can be the case.

LOCAL option has killed the Miners' Eight Hours' Bill. A considerable section of members, not at all unfavourably disposed towards the principle, are averse to making it absolutely coercive, and thus sought the opportunity offered by this amendment of effecting a sort of compromise. To the promoters of the measure the saving clause appeared fatal to their object. No great faculty of observation is required to show that laws with an optional clause tend more and more to be inoperative. An eight hours' law at the mercy of underground parliaments would occasion more than one curious anomaly. In some mines it would be enforced, while in others—a large minority in any case—it would meet with rejection. The originators of the measure were gifted with the introspection to see that this would inevitably result in a complete failure for their endeavours. Hence the withdrawal of the Bill, and the impossibility of its acceptance for this session. No complete unity of mind characterises the advocates of some such measure. Many of the representatives of the men themselves have advanced cogent arguments against compulsion. The growth of the movement has, however, been a rapid one, and hardly seems destined to end thus.

AN admirable public institution like the Johannesburg Chamber of Mines casts upon its supervisors no small responsibility to bring it to its highest point of general utility, and to keep fully apace with the needs of the industry whose interests are its peculiar care. That this responsibility has received cheerful recognition appears from the liberal spirit in which certain proposals for reforming the constitution of the Chamber have been considered. The main gist of the resolutions embodying the innovation was to bring the institution into closer touch with mining men, and to make its membership theoretically—what now it really is—a representative one. None can fairly say that up to the present time the representation of mining interests in the body of gentlemen composing the Chamber has not been a real representation. Theoretically, however, the mode of election was thought to be open to some objection, and to remove this a proposal was made at a recent meeting of the institution to empower the shareholders of a company to ratify or reject the appointment of a fellow-shareholder. To accept the motion, however, might be thought to have been an admission that, practically as well as theoretically, the Chamber was not representative, and upon that account it was lost on being put to the vote. No narrowness of view was, however, apparent in the discussion, and the easy acceptance of some minor, but still important, alterations in the articles of constitution, shows that the body are dominated by no unreasoned hostility to changes, merely as such, if they can be proved to be beneficial.

OUR CITY ARTICLE.

Friday Evening.

THE MINING MARKET.

A satisfactory settlement.—Money plentiful.—Markets steady and firm.—A hopeful close.

A MORE than usually satisfactory week for the Mining Market terminated yesterday, during which business has been active, and prices have been firm. Monday was devoted to the arrangement of the past account, in which no difficulty was experienced, money being excessively plentiful and rates ruling easy. Very considerable gains have, in many cases, been registered, the rises during the progress of the account having been gradual and steady. Shares have not been precipitately thrown upon the market, and the process of absorption has been slow, but complete. Chief among the rises registered was one of ¾ in Exploring, while Heriot were up 1/16. Gains of ⅝ each took place in City and Suburban, Crown Reef, and Zambesia, while Ferreira, Geldenhuis Deep, and Worcester were about ½ higher. Henry Nourse were 1/16 and Oceana 13-32 to the good, while Geldenhuis Estate and Village Main Reef each exhibited a rise of ⅜ over the July price. But little business was transacted upon the new account in the Kaffir section. Most conspicuous among the rises was one of ⅝ in Ferriera, which carried the shares up to 7⅞. In nearly all cases the movements, though not to any great extent, were in favourable directions. Australian shares almost wholly monopolised attention in the Miscellaneous market, where some encouraging news from the other side occasioned a favourable inquiry for West Australian Gold shares. Copper shares also were in the ascendant. A steady, continuous, upward motion ruled in the market on Tuesday. South African Gold, Diamond, and Copper shares climbed up in a body. The one exception to the hopeful tone was to be found in the Land market, where a disposition to snatch profits occasioned a smaller than usual relapse in the prices. Oceana were the only shares which maintained an undiminished strength. These continued to rise against the unfavourable current. There was liveliness in all sections of the Miscellaneous market, but especially among Indian shares, where the influence of recent reports, delayed for some time, began to tell. The strength of the more solid shares was strikingly manifested on Wednesday, when they remained strong, while a sort of half relapse occurred in the more speculative sections. In Rand shares, there were several further advances, and the tone, on the whole, was a firm one. Land shares were uncertain, but the movements were very inconsiderable. Diamonds were decidedly sleepy. In the Miscellaneous market Indians were the strong feature, where one or two improvements were registered. In other directions there was but little doing. Rio Tinto were 1/16 better at 14¼. Throughout Thursday the Mining Market continued in a favourable condition. Gold shares were lively, and there was hardly a set-back worth recording. There was rather more dubiety about the Land department, but Chartered, Oceana, and Central African hardened considerably. Diamonds had recovered their dulness, and both De Beers and Jagers rose to some small extent. In the Miscellaneous market the only lively spot was in West Australian Gold Fields, for which there was a demand. Altogether, the condition of the whole Mining Department is highly satisfactory at the close of the week.

British Mines.

The Cornish market has been active this week with a good advance all round, and buyers more numerous than sellers. Orders have been executed with great difficulty. Carn Brea have advanced from 7 to 8½, and close at best. Dolcoath are steady at 68½. Killifreths have been freely dealt in at 60s. Tincrofts rose from 10 to 11¼, and close buyers at the top. Wheal Grenville are nominally 18, but in the absence of real business it is not an easy matter to say what the price is. The outlook is decidedly better than for many months past.—Risen: Carn Brea, 45s.; Cook's Kitchen, 10s.; Dolcoath, £3; East Pool, 25s.; Polberro, 5s.; South Crofty, 7s. 6d.; South Frances, 5s.; Tincroft, 35s.; West Kitty, 5s.; Wheal Basset, 6d. (allowing for call); Wheal Grenville, 30s.; and Wheal Kitty, 3s. (allowing for calls).—Fallen: None. Calls made: South Condurrow, 2s. 6d.; Wheal Agar, 8s.; Wheal Basset, 4s. 6d.; and Wheal Kitty, 1s.

South African Shares.

No difficulty of any kind marred the success of the carry-over in this market on Monday. Rates ruled easy. Chartered went over at 34s. 4½d. as against 28s. 9d., Consolidated Gold Fields at 46s. 10½d. as against 42s. 6d., and in New Primrose, Jumpers, Nundydroog, Robinson, Salisbury, and Stanhope the rallies varied from ¼ to 1/16. In Rio Tinto the improvement was as much as ½, the outlook in copper being regarded as hopeful. Jagers and De Beers carried over at 13, but while the account was in progress the former were depressed to the extent of 1⅛. Business on the new account was very restricted. Generally, however, the movements were in the upward direction. Ferreira went up ⅝ to 7⅞, Meyer and Charlton, Rietfontein, and Geldenhuis Estate were better to the extent of ½. Crown Reef and Rand mines were the only exception to the buoyant tone, and these only reacted to the extent of 1/16. With the exception of the Land section, where there was a slight tendency to relapse, the South African market was dominated by a buoyant tone on Tuesday. Gold shares were prominently active. Ferreira were again widely enquired for, and rose to the extent of ½. Jumpers, Crown Reef, Geldenhuis Estate, Wemmer, and Rand mines gained to the same extent. Rises of 1/16 were recorded by Simmer and Jack, Worcester, Henry Nourse, United Roodepoort, and Village Main Reef. Sheba gained 6d. A relapse of 6d. occurred in Buffeladoorn, where there was the only sign of anything like weakness. Among Land shares, Chartered touched at one time 35s., but closed slightly under that figure. Bechs. similarly closed some way under the best at 26s. 4½d., the relapse in this, as in the former case, being due to realisations. Central African, Zambesia Exploring, and Consolidated Gold Fields were all slightly off colour. Diamond shares went up to some extent, De Beers and Jagers registering gains on the day. The copper market was strong. Rio Tinto were cordially supported from Paris, and left off 1/16 higher on the day at 14 1/16. There was a break in the speculative mood of the market on Wednesday. The consequence was a relapse in the more uncertain quarters, which did not, however, affect the rises which have recently occurred in the more solid shares. Land shares were subject to many different currents of movement. Chartered were affected by a dead calm, and closed at 34s. 3d., the same figure as on the previous day. Oceanas had a further rise of 1/16, while Hampton Lands moved up ½, and Zoutpansberg 9d. On the contrary, Exploring fell 1/16, and Wentworth Priority 6d. In Gold shares Geldenhuis Estate went up a further 1/16, while Wemmer and Transvaal Gold were quoted ⅛ higher. Simmer and Jack advanced 1/16. Paarl Central also rose 1/16, and Spes Bona gained 6d. On the other hand, Heriot fell ⅛, Meyer and Charlton 1/16, and New Primrose 1/16. Diamonds were weak. De Beers closed at 15⅛ bid, while Jagers were motionless. On Thursday the South African Market was steady and firm. This condition of affairs was all the more satisfactory, seeing that the amount of business transacted was very restricted. Land shares were somewhat neglected. Chartered, however, closed 6d. up on the day at 34s. 9d. Oceanas rose 1/16, while small gains were also registered in Transvaal Development and Zoutpansberg. City and Suburban received a good deal of attention in the gold section, and rose 15-32 to 14 17/32. Durban-Roodepoort moved up ⅛, Langlaagte 1/16, Transvaal Gold ⅛, Block B 3d., Geldenhuis Deep ⅛, and Henry Nourse 1/16. Buffelsdoorn recovered to the extent of 2s., Rand Mines ⅛, and Kleinfontein 1/16. Generally the Rand gold section was pretty buoyant in tone, and the condition of the markets an excessively hopeful one. Diamond shares were remarkably strong. A gain of ⅛ in De Beers and ⅛ in Jagersfontein marked the improved tendency in that department. The activity of the last few days has not been wholly maintained in this department of the Mining Market throughout to-day. Prices, however, remain firm in the Gold section, there being still but few upward movements. Land shares have been rather less satisfactory in tone. Chartered closed unchanged, but Oceanas are a little bit off. Diamonds have been active all day, and both De Beers and Jagers have registered considerable gains. Beyond this, there is little to note.—Risen: Balkis Eesterling, 6d.; Block B, 6d.; City and Suburban, 15s.; Central African Zouts., 1s. 6d.; Consolidated Deep Level, 2s. 6d.; De Beers, 20s.; Durban, 1s. 3d.; East Rand, 1s. 6d.; Ferreira, 15s.; Geldenhuis Deep, 7s. 6d.; Geldenhuis Estate, 2s. 6d.; Geldenhuis Main Reef, 6d.; Henry Nourse, 3s. 9d.; Johannesburg Estates (allowing for dividend), 6d.; Johannesburg Water (allowing for dividend), 1s. 3d.; Jubilee (allowing for dividend), 1s.; Jumpers (allowing for dividend), 3s. 6d.; Klienfontein, 3s. 6d.; New Jagers, 27s. 6d.; New Virginia Transvaal, 6d.; Oceana (allowing for call), 8s. 9d.; Paarl Central, 1s.; Rietfontein, 2s. 6d.; Shebas, 1s.; Simmer and Jack, 2s. 6d.; Spitzkop, 3d.; Transvaal Estates, 6d.; Transvaal Exploration, 7s. 6d. —Fallen: African Gold Recovery, 5s.; Champ d'Or Deep, 6d.; Colar Gold Fields, 1s. 3d.; George and May, 2s. 6d.; Glencairn, 1s. 6d.; Johannesburg Pioneer, 5s.; New Primrose, 2s. 6d.; Robinson (allowing for dividend), 2s. 6d.; Salisbury, 2s. 6d.; Silati (allowing for call), 6d.; Stanhope, 5s.; Sutherland Reef (allowing for call), 6d.; Zambesia, 5s.

Miscellaneous Shares.

At the commencement of the week the interest of the Miscellaneous market was chiefly concentrated in Australian shares which were in demand at some improvements. Bayley's Reward, Carrington, and Kapanga rose 3d., Mount Morgan 1/16, and Brilliant Block and Broken Hill Props. 6d. Indian shares were almost motionless, the single movement being a gain of 6d. in Gold Fields of Mysore. American shares were quiet. Pinos Altos and St. John del Rey both gained 1s. Small relapses occurred in De Lamar, Golden Feather, and Gravel Gold. Rio Tinto had a sharp rise, the Eastern war being expected to have a favourable effect upon the Copper market. Tuesday was a very active day in the Indian and Miscellaneous market. The effect of the satisfactory reports from the Indian mines began to tell. Mysore advanced 1/16, Ooregum ⅛, and the Preferred 1/16, Mysore Reefs 6d., Mysore West 6d., and Mysore Wynaad 9d., while Nundydroog were up 6s. 6d. The demand for Australian shares was not quite so brisk on Wednesday as during the preceding few days. Both West Australian Gold Fields and Gold Concessions gained slightly. Indians were strong in the Miscellaneous market on Wednesday. Ooregum, both ordinary and preferred, rose 1/16. Nundydroog rose 6d., and Balaghat and Mysore West 3d. An advance of 1½d. in Mysore Harnhalli resulted on Captain Martin's report upon the old workings. Mysore Wynaad were down 3d. Australian shares were quieter. Rises of 6d. occurred in Bayley's Reward, Brilliant New, and Mount Morgan. Elsewhere in the market there was but little to record. The Miscellaneous market was rather uncertain in temper on Thursday. Indians were dull. Nundydroogs improved a little, but Champion Reef reacted 1/16, and Mysore West and Mysore Wynaad 3d. Further enquiries for West Australian Gold Fields carried the shares 1/16 higher to 1 7/16. The improvement in silver values occasioned a satisfactory advance in Broken Hill Props. and Elkhorn. To-day's dealings in the Miscellaneous market have been generally of a favourable character. Montana and Elkhorn have been a little better. Broken Hill Props, on the other hand, have not wholly maintained their recent rises. Indians have been quiet but strong. The only movement worth recording has been a small improvement in Mysore-Harnhalli. Other than this there has been little doing. — Risen: Alaska, 1s. 3d.; American Belle, 3d.; Australian Broken Hill, 3d.; Baker's Creek, 1s. 3d.; Brilliant, 1s. 6d.; British Broken Hill, 3d.; Broken Hill Proprietary (allowing for dividend), 6s. 6d.; Cape Copper, 6s. 3d.; Cumberland, 3d.; Copiapo, 5s.; Don Pedro, 6d.; Elkhorn, 2s. 6d.; Frontino, 1s.; Gold Fields of Mysore, 2s.; Gravel Gold, 6d.; Libiola, 2s. 6d.; Mason and Barry, 5s.; Montana, 1s.; Mysore Harnhalli, 6d.; Mysore Reefs, 6d.; Mysore West, 6d.; Namaqua, 1s. 3d.; New Guston, 1s. 3d.; Ooregum, 5s.; ditto Preference, 5s.; Palmarejo, 6d.; Pinos Altos, 1s.; Rio Tinto, 21s. 3d.; Tharsis, 5s.; Waihi Gold, 1s. 3d.; Wentworth Ordinary, 3d.; West Australian Gold Fields, 8s. 9d.; United Langlaate, 1s. 3d.; United Roodepoort, 2s. 6d.; Van Ryn, 1s. 3d.; Village Main Reef, 7s. 6d.; Wemmer, 7s. 6d.; Wolhuter, 2s. 6d.; Worcester, 1s. 3d.—Fallen: Argentine Concession, 6d.; Burma Ruby, 3d.; Champion Reef, 2s. 6d.; Eaglehawk, 3d.; Glenrock, 9d; Golden Gate (California), 6d.; Harquahala (allowing for dividend), 9d.; Kangarilla, 3d.; Mount Morgan, (allowing for dividend), 9d.; West Argentine, 3d.; Quebrada, 1s. 3d.

Frank Douglas, who was among the earliest Cooktownites on the Rocky, says the *Cooktown Independent*, and who was not only working as a miner, but subsequently butchering and storekeeping there until lately, assures us that so far as he could ascertain, the average returns have been from 1 to 2 dwts. per man per day, with hard, steady work.

Matters certainly improve, says the *Rhodesia Herald*. Mr. Alford's coming here means sound and sensible work, and life for the Exploring Company. Major Johnson is off to Umfuli to set that valuable district humming, and what is better, putting out gold. A big stir may be expected at the Salisbury Reef and at the Mazoe before long. Victoria will shortly start an output; Umtali's troubles are breaking up like night before dawn; and the railway is swiftly advancing. The 50 per cent. and the want of a mining law st ll stand in the road, and some other little difficulties, but they are at most a question of time.

At the Salisbury Gold Mining Company's annual meeting the Chairman stated that they intended to double the stamping power, in view of the forward state of development, which has reached 41,930 tons—equal to a 20 months' supply for the present 20 stamps. The ore crushed during the past six months has come from poor and narrow reefs, but in the deeper levels the indications are more favourable.

LATEST FROM THE MINES.

CABLEGRAMS AND TELEGRAMS.

ASIA MINOR.—Production to July 28: Lidjessy Mines, 3568 tons crude ore crushed, yielding 252½ tons rich silver lead.

APPANTOO.—The return for July 408 ounces gold. The June return of 253 ounces realised £969 8s. 4d.

AZTEC.—The directors of the Aztec Gold Mines have received a cablegram from the mines to the following effect:—"Struck a very valuable ore body in the No. 2 or Ross tunnel. At present time ore body is 50 feet long and 6 feet wide. The new 40-stamp mill starts September 1."

BAYLEY'S REWARD.—The following cable, dated 14th inst., has been received from Melbourne by this company's London office:—"Week's run 700 ounces, 71 tons."

BUFFELSDOORN ESTATE AND GOLD.—The result of last month's crushings yielded 4376 ounces of gold.

CROWN REEF.—Results for July, received by cablegram from Johannesburg, August 10:—Number of days working 120 stamp mill, 29 days 3 hours; crushed by 120 stamp mill, 27·38 tons; accumulated tailings and slimes treated, 8853 tons; yield in smelted gold from 120 stamp mill, 6908 ounces; yield in smelted gold from 120 stamp cyanide works, 2289 ounces; yield in smelted gold from old cyanide works, 1423 ounces; total, 10,620 ounces. Profit from 120 stamp mill and cyanide works, £9343; accumulated tailings and slimes, £972; total profit for July, £10,315.

CUMBERLAND GOLD.—The directors have received the following cablegram from the mine:—"Cyanide process, July: 300 tons, 112 ounces. Improvement may be expected in August."

DARIEN.—The directors of the Darien Gold Mining Company (Limited) have just received a code cablegram from their manager at the mines, which they interpret as follows:—"We have struck lode; has the appearance of a good body of ore."

ELKHORN.—Bullion produced in the mill for the week ending 11th August, 9500 ounnces.

EXPLORATION COMPANY (Alaska Mexican).—Cablegram from Alaska reports the clean up for the month of July as follows:—"Period since last return, 31 days; bullion shipped, $19,508; ore milled, 6106 tons; sulphurets treated, 129 tons; of bullion there came from sulphurets, $5446; working expenses for period, $8938."

GEORGE AND MAY.—Crushing for July 1098 ounces.

ISLE OF MAN.—The secretary sold on Saturday 100 tons of this company's ore (chats) at £6 4s. per ton.

JAVALI.—The directors have received advices from their manager, dated June 18. During the month four stamps working 19 days crushed 180 tons of ore, which produced 60 ounces of gold, the yield from two arrastras being 7 ounces, total 67 ounces of gold. The gold is valued at £134, the cost for May being £188 11s. 6d. The rainy season had not set in, but there were signs that it would not be delayed much longer.

KABOONGA.—In answer to a special cable to the manager at the mine asking when he expected to reach the lead, the board have received the following:—"Expect to strike lead in about three weeks."

LAS CABESSES MANGANESE.—Production for the week ending 11th August, six working days, 617 tons, or a daily average of 102 tons.

LISBON-BERLYN.—A cable has been received from the manager giving the following result for the month of July:—"Tailings treated by cyanide, 1400 tons (of 2000 lbs.); recovered, 520 ounces; milled, 1200 tons (of 2000 lbs.); recovered, 135 ounces; total recovered, 655 ounces."

MAIN REEF.—During July crushed 4365 tons; obtained 825 ounces of gold, also 245 ounces from tailings; total, 1070 ounces.

MOUNT ZEEHAN (Tasmania).—The following telegram has been received, dated Hobart, 13th inst.:—"Milled 150 tons of ore in 6 days for 16 tons concentrates (containing about 12 tons of lead and 1040 ounces of silver). Shipped 90 tons per s.s. *Hohenstaufen*."

NEW DOURO.—Mill return for month of July: Mill worked, 23½ days; ore crushed, 216 tons; gold recovered, 115½ ounces.

NERBUDDA COAL AND IRON.—The sales of coal for the month of June was 1305 tons.

NEW KLEINFONTEIN.—The following is the copy of a cablegram received from South Africa on the 14th instant:—"Have crushed 4100 tons, and result is 1620 ounces; 3250 tons treated by cyanide yielded 480 ounces, profit for the month £2630."

NEW RIETFONTEIN.—Crushed during July 2040 tons; obtained 1089 ounces of gold. Cyanide works treated 1710 tons of tailings, yielding 457 ounces, and obtained from concentrates 57 ounces; total, 1603 ounces.

NEW VIRGINIA TRANSVAAL.—The following cablegram has been received from Mr. Sydney Chambers (one of the directors of the company) who is now at the mine:—"The mine is producing good payable ore from many points and is opening up well; rich in visible free gold."

OTTO'S KOPJE.—Machinery received, and is now on the mine. Have commenced erecting machinery.

OURO PRETO.—This company has received a cablegram from the mines giving the return for the month of July as follows:—"42,212 grammes = 1357 ounces."

PHILIPPINES MINERAL SYNDICATE.—The following cablegram has been received, dated Manila, August 11:—"Trial of machinery August 9; works well. Tramway from the shaft to the mill has been completed."

ROBINSON.—The following cable from the head office at Johannesburg is to hand:—"Profit for month of July, £24,000. Owing to accident to crushers the mill was delayed 30 hours."

STANHOPE.—Last month's crushing yielded 920 ounces battery, 525 ounces cyanide, 1750 tons crushed, £3500 approximate expenses, £1500 approximate profits.

TRANSVAAL COAL TRUST.—The following is copy of a cablegram which has been received from Johannesburg with reference to the company's operations for the month of July:—"Output, 24,900 tons; profit, £4400."

VICTORIA GOLD MINING ASSOCIATION (Charters Towers).—The fortnightly crushing has been cabled as follows:—"265 tons yielded 411 ounces gold."

VILLAGE MAIN REEF.—Result of last month's crushing: "Mill ran 28 days, crushed 3600 tons, which yielded 1900 ounces free gold, and 62 tons concentrates, assaying 3 ounces. Tailings assayed 3 dwts.

WENTWORTH GOLD FIELDS PROPRIETARY.—The following cablegram has been received from the mines:—"During the last three weeks 535 tons of ore have been crushed, yielding 790 ounces of gold. The new main shaft is down 826 feet. The south-east drive—Phœnix—500 feet level shows favourable indications of coming into good ore."

WEST AUSTRALIAN GOLD CONCESSIONS.—In addition to the Coolgardie property adjoining Bayley's Reward Gold Mining Company (Limited) on the east, which the West Australian Gold Concessions (Limited) bought a few weeks ago, they have now secured Lease No. 962, which immediately adjoins the Bayley's Reward property on the north, as well as the eastern boundary of their own lately acquired property.

WEST AUSTRALIAN GOLD FIELDS.—The following cablegram, dated Perth, 10th August, has been received from Hon. H. J. Saunders, resident director of the company in Western Australia:—"Very rich find 40 miles north of Coolgardie; a 4 cwt. specimen half gold. Have struck rich ore in McAuliffe's (*i.e.*, White Feather Reward claim, recently purchased by this company). Assays give 30 ounces to the dish—a dish is about 14 lbs."

ZEEHAN-MONTANA.—The following telegram has been received, dated Hobart, 13th inst.:—"Have shipped 50 tons of first class ore per s.s. *Hohenstaufen*."

THE EDITOR'S LETTER BOX.

*** We wish it to be understood that we do not hold ourselves responsible for, and do not necessarily endorse, the opinions of correspondents. All communications must be accompanied by the names and addresses of the senders, though these need not necessarily be published.*

WEST AUSTRALIAN MINING.

TO THE EDITOR OF "THE MINING JOURNAL."

DEAR SIR,—Ever since the discovery of that mine of stupendous wealth at Coolgardie, known as Bayley's Reward, by Messrs. Bayley and Ford in October, 1892, there has been a theory that Bayley's was *rara avis in terris*, a prodigy, a phenomenon. An ounce of experience, however, is worth a ton of theory, and the idea that the Reward claim was a solitary and exceptional patch has been effectually exploded by recent news from Western Australia. First, we have the marvellous discovery by the lucky half dozen of weary and disheartened miners who, by a happy chance, lighted on the Londonderry reef, which up to the present gives promise of rivalling, if not surpassing, Bayley's. The ink is scarcely dry which chronicles this important find, when a message by cable through Reuter's agency announces another astounding discovery some 50 miles distant from the Londonderry Mine.

The Warden at Coolgardie has given official information to the Government that an auriferous reef which outcrops for half a mile has been discovered by the prospecting agent of a Perth Syndicate 40 miles north of Coolgardie. So far as I can judge, it must be situated some 10 miles south of Black Flag, and east of Waldin. 4 cwts. of specimens were brought into the local branch of the Union Bank of Australia, and personally inspected by the Warden. He estimates the gold at more than the weight of the stone—that is to say, that in 4 cwts. of quartz there is more than 2 cwts. of gold. I cannot think that the Warden would be guilty of wilful exaggeration, although, of course, he may be wrong in his estimate, in which case he may possibly have under-rated the value of the specimens.

So far as we can gather from the cablegram, however, there would appear to have been taken from the reef within a very short space of time some £10,000 worth of gold. We shall anxiously wait for further particulars, and, meanwhile, I can only say that no field has been more skilfully or assiduously prospected within the last two years than Coolgardie, although, of course, by a mere handful of miners. These few prospectors have already disclosed the enormous possibilities of the colony in this particular area. A leading article in the *Daily Telegraph* of August 10 contains these words: "For many years past, those best acquainted with the resources of Western Australia have been prophesying a brilliant future for that colony." I think I may lay claim to be at least one of the "minor prophets;" and in that capacity I venture to predict that when the Pilbarra Gold Field in the north-west and the Marble Bar district of that territory in particular is placed on a par with Coolgardie in respect of roads, railways, telegraphs, capital, and skill, there will be revelations from the reefs of the north-west which will astonish the world.—Yours faithfully,

ALBERT F. CALVERT.

47, *Old Broad Street, City, 11th August*, 1894.

CORNISH MINING—ITS REVIVAL.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—We seem to have arrived at a period of exceptional speculative activity. The steady advance in the price of tin fairly surpasses expectations that a prosperous mining Autumn is before us. Apart from the inevitable advance in the price of low-quoted shares, a great number of which (if time is taken by the forelock) offer exceptional advantages, probably the upward move will also have the effect of drawing "outside" attention to the conditions and capabilities of mining in the oldest mining field in England, if not of Europe, and unless conditions materially change, 1895 ought to be a prosperous beginning of what I trust will be a more prosperous decade than that which is now drawing to its close. The working of new ground so long advocated by the writer have the two-fold advantage of the greater chance of making discoveries, and the less expensive way of attaining such object, but, unfortunately, for the want of knowing the mineral producing from the non-mineral producing rock, much useless expenditure and consequent failure have occurred. To the experienced eye the difference is easily discernible. On the line of lodes east in the Roach (St. Austell) district, embracing those of Great Beam and Rocks and Treverbyn Mines, there are sections of unexplored ground equal in productiveness to any hitherto found, and offer a field for the capitalist not easily surpassed, the owners of which are disposed to grant concessions on reasonable terms, and so assist to arrest the downward tendency of the county's great and most profitable industry. It is also evident we are on the eve of a boom in those low-price shares in mines which the shareholders have borne the great strain of for the last few years, stimulated by a practical knowledge of their prospective worth. It may not be out of place to mention one case of undaunted perseverance in the St. Agnes district (Wheal Kitty), where the manager has spent *his own money* to back his opinion of the ultimate result, of which he has now commenced to reap his deserved reward. It is such men who deserve the confidence of the enterprising investor, and it is to such men that Cornwall has hitherto, and will in future, owe its prosperity.—Yours obediently,

CHAS. BAWDEN.

Poldice House, St. Day, Scorrier, Cornwall, August 14th, 1894.

MINING NOTES.

HOME, COLONIAL, AND FOREIGN.

FOR some time past there have been rumours of a big gold discovery near Brisbane, but the secret has been well kept until preliminary arrangements had been completed. These necessary preliminaries are over now, and it has been ascertained the location of the find is on the Logan road, about 14 miles from Brisbane, says the *Adelaide Observer* of June 30. The new field is to be called Mount Taylor, after the owner of the land, and is situated about one mile from the Kingston railway station on the South Coast Railway. Mr. Taylor had been aware for some time past of the nature of the stone, which forms the cap of a ridge or mountain, but he had been unable to work it for lack of money and appliances. About two years ago a small syndicate endeavoured to work the land, and found enough gold to justify the expenditure, but the bank failures stopped them. A short time ago E. Reynolds and Isen heard of the field, and some specimen stone fell into their hands. Reynolds examined the stone, and was so satisfied with the result that he visited the ground, and he and Isen subsequently entered into negotiations with Taylor, with the result that a prospecting agreement for three months over 32 acres, with water rights over five additional acres has been secured, and the owner of the land will be directly interested in the work carried on by the new syndicate. The new prospectors have found a shaft 40 feet deep, and two small holes about 5 feet deep, all on the top of the ridge. From each of these rough ironstone quartz has been taken, and in all about 3 cwts. of stone has been brought into Brisbane. Tests by Reynolds give from 5 grains to 5 ounces to the ton, but the real tests by assay have yet to be made.

FOR some time past there have been signs of renewed interest in the development of the Upper Tararu, Waiomo, and Tapu districts, says the *New Zealand Herald*. In the early days of this gold field the Upper Tararu Valley was a scene of great mining activity, and many of our older miners will easily recall the palmy days of the old Vulcan Mine, which turned out thousands of ounces of the precious metal while operations were carried on there. From that time almost till now this portion of the gold field has been virtually neglected, receiving now and again only an occasional visit or a spasmodic effort at prospecting by some venturesome party of miners. Among the most enterprising of these prospecting parties should be mentioned the Lowrie Brothers, who some three or four years ago unearthed some nice "specimen stone" near the outcrop of a reef situated on the high ranges south of the old Vulcan Mine. The Lowrie's find, however, did not result in much work being done at that time, and consequently they shortly afterwards moved the scene of their operations to the Waitekauri district, where their labour and perseverance were soon rewarded by the discovery of the reef which now forms the mainstay of the Golden Cross Mine in that district.

THE same paper remarks that last year Mr. John McDermott and party took up the search for the precious metal at Tararu, at the point where the Lowrie Brothers left off, and after an infinite amount of hard labour, not unmixed with some hardships on account of the want of tracks and the wet season, they proved the existence of more than one fine reef in their ground. With commendable energy McDermott and party decided to erect a small battery for the purpose of practically testing the value of the ore available. The County Council, with the aid of a subsidy from the Minister of Mines, constructed a fairly graded road to the upper part of the valley, and eventually, after numerous difficulties, a small four-stamper battery, together with a steam engine and boiler, were dragged up the ranges and placed in position.

DURING the past two months several trial crushings have been treated; the results represented a return of about ½ ounce of gold per load of quartz from the plates alone. At the Thames such a return would be remunerative, but in such an inaccessible position, together with the cost of fuel for steam and the attendance to the small plant, it was found and reluctantly admitted that this would not pay. Negotiations are now in process, however, for a plant of larger size and fitted up for the adoption of the cyanide process in the treatment of the ore available, and should this be successfully accomplished, there is no doubt but that a very bright future will be before the Upper Tararu district.

A CORRESPONDENT to the *Queensland Register* writes:—Messrs. Lennox and Rannie, of the Kangaroo Hills Silver and Tin Mines, are still pegging away at their silver mines, and expect to be able to place the metal on the London market at a price which will pay, even at the present low price of silver. We have just had a visit from the Warden, who has been going his periodical rounds, accompanied by Mounted Constable Dick Fadden. Tin is still being obtained at Mount Benham and the old tin mines, but not in the large quantities we should like to see, especially now that the price is so low. A good many men are working at the new find on Saltwater Creek a few miles from "Bullocky Tom's," Pat Connors came in to the old tin mines the other day, and bought up all the canvas and bags he could get. He has struck a patch somewhere, but is not communicative on the subject. The only information that appears to have been gathered is that "it is on the Clarke." Tom Smith, I believe, went back with him, and an old bushman is said to have run their tracks and located the find. Pat is credited with having got 2 tons in a week, but the amount may have been slightly exaggerated. From what I can gather the patch is situated about 60 miles from Charters Towers and over 100 miles from this.

IT is worthy of note that, although the July output of the Crown Reef Company only increased by 337 ounces, the profit for the month was £2660 higher than in June.

THE Lotaba Gold Mining Company have been placed in liquidation, and it is believed that the assets will realise no more than the amount of the bond on the property.

THE output of the Lydenburg district of the Transvaal for the first half of the present year amounted to 27,533 ounces, as compared with only 12,351 ounces for the corresponding period of 1893.

THE great *bewaarplatzen* question, respecting the ownership of mining rites under tailing sites, has been settled by the Transvaal Government in favour of the surface owners. In other words, the owners of the surface rights are held to be entitled to the underground mining rights also.

IT is stated at Johannesburg that at the Champ d'Or property 20,000 tons to 30,000 tons of ore are developed. The present output of 4500 ounces a month, it is said, will be maintained for another couple of months, after which it will be dropped to about 4000 ounces, in view of the fact that the sums due for machinery will have been paid off.

THE METAL MARKETS.

LONDON METAL MARKET.

THE METAL MARKET—LONDON, AUGUST 17.

Copper.

THE G.M.B. market opened on Monday at £3 17s. 6d. s.c., and £39 5s. three months—*i.e.*, rather better than at last week's close, and before the day ended £39 and £39 7s. 6d. were paid respectively. On Tuesday the news of the actual passing of the American Tariff Bill led to a general improvement in speculative quarters, our copper market sharing in the impetus thus given. About 1100 tons changed hands, values advancing to £39 7s. 6d. s.c., and £39 15s. three months, whilst Wednesday brought a continuation of the upward movement, £39 11s. 3d. and £39 18s. 9d. being ultimately paid for s.c. and three months respectively. Yesterday's market, after opening firm at £39 12s. 6d. s.c., eased off somewhat, and £39 8s. 9d. was done, followed by £39 10s. To-day £39 11s. 3d. was paid for spot. The quiet but steady speculative buying which has been going on all the week has thus resulted in a rise of about 12s. 6d., the market closing steady at £39 10s. to £39 12s. 6d. s.c., and £39 17s. 6d. to £40 three months.

Tin

This article, which is to be duty free under the reformed American Tariff, has naturally been much influenced by the passing of the Bill in question. There has been a considerable amount of buying, and a rapid rise in price. On Monday the market opened lower at £68 5s. three months. Straits, which was done later as low as £67 5s. s.c., with three months quoted at £67 12s. 6d., but on Tuesday, under the influence referred to above, the market grew strong, and 320 tons were done at advancing prices — £69 5s. three months and £69 s.c. being eventually recorded. On Wednesday about the same quantity was treated, and spot rose to £70 at one moment. Here a reaction ensued, in consequence of considerable sales, and cash was done at £69 7s. 6d., and three months at £69 10s., recovering to £69 15s. On Thursday we opened dull at £69 s.c. and £69 10s. three months, but large purchases, both of forward and early prompts, sent the value up about 12s. 6d., 5s. of the advance being subsequently lost. To-day business took place in s.c. and up to £70, the market closing firm at £70 to £70 2s. 6d. s.c., and £70 10s. to £70 12s. 6d. three months. In the Dutch market there has also been a rapid advance, Billiton opening at 41½fl. spot, and touching successively 41fl., 41¾fl., and 42¼fl., the closing value. Banca has risen 2fl. since last week, and closes at 43fl.

Pig Iron.

Scotch shipments last week amounted to 3853 tons, or 1079 tons less than in the corresponding week of last year. In the Glasgow market Scotch warrants opened at 42s. 3d., touched 42s. 2d., and then advanced to 43s. 1½d., closing at that price with hematite at 44s. 6½d., and Middlesborough at 35s. 11d.

Lead

has also been subject to the influence of the news from America, and has moved up from £9 11s. 3d. to £9 18s. 9d. for soft foreign, which closes strong at £9 18s. 9d. to £10, with English at £10 to £10 2s. 6d.

Spelter

has ruled steady but quiet at £15 7s. 6d. ordinaries. Towards the close the tone has improved, and the final quotations are £15 7s. 6d. to £15 10s. ordinaries, and £15 10s. to £15 12s. 6d. specials.

Antimony

has participated to a slight extent in the general improvement, and closes firm at £32 to £33, smelters being apparently well sold.

Quicksilver

is firm and advancing, the importers having raised their price to £6 5s. per bottle. Supplies are expected to be scantier than for some time past.

The following are to-night's (August 17) prices of metals;—

	£ s. d.	£ s. d.
Copper.		
Tough cake and ingot	41 15 0	42 5 0
Best selected	42 5 0	42 15 0
Sheets and sheathing	—	50 0 0
Flat bottoms	—	53 0 0
Chili bars, spot, & 3 months respectively	39 10 0	39 17 6
Good merchantable, spot, & 3 months respectively	—	0 0 6¾
Copper tubes, seamless	—	0 0 6¾
Alloys.		
BRASS: Wire	—	0 0 5
" Tubes (solid drawn)	—	0 0 5½
" Sheets	—	0 0 5½
PHOSPHOR BRONZE: Alloys II.	—	78 0 0
" " III. or V Cog Wheel Brand	—	81 0 0
" " VII.	—	83 0 0
" " XI.	—	78 0 0
" " Vulcan brand A1	—	72 0 0
DURO METAL	—	73 0 0
BULL'S METAL	—	65 0 0
Ferrobronze (Vivian's).		
Ingots, per lb.	0 0 5¾	—
Ordinary sheets, plates, bolts and bars	0 0 6¾	—
Screw bolts and nuts	0 0 7¾	—
Pump rods, plain	0 0 6¾	—
" finished	0 0 9¾	—
DELTA METAL: No. 4 (per ton)	—	73 10
" Sheets and plates (per lb.)	0 0 10½	—
" Bars, round, square, flat (per lb.)	0 0 9¾	—
" " hexagon (per lb.)	0 0 9	—
Tin.		
English, ingots, f.o.b.	71 10 0	72 5 0
" bars	72 10 0	73 5 0
" refined	73 10 0	74 5 0
Straits, spot and 3 months respectively	70 0 0	70 10 0
Australian spot, and three months respectively	70 10 0	71 0 0
Banca " (in Holland)	73 5 0	73 7 6
TIN PLATES: Charcoal, best quality, per box	0 14 0	0 15 0
" " ordinary	0 11 6	0 12 6
" Coke, best quality	0 10 9	0 11 3
" " ordinary	—	0 10 3

These prices of tinplates are f.o.b. at Swansea: at Liverpool 6d. per box more.

Iron.		
Pig, G.M.B., f.o.b., Clyde, spot	—	2 3 1
" Scotch pig, No. 1 Gartsherrie	—	2 17 6
" " Coltness	—	2 18 0
" " Clyde	—	2 16 0
" " Govan	—	2 3 6
Bars, Welsh, f.o.b. Wales	—	5 2 6
Plates " "	—	6 2 6
Bars, Staffordshire, at works	—	5 5 0
Sheets " "	—	6 10 0
Plates " "	—	6 7 6
Hoops " "	—	5 7 6
Ship plates, Middlesborough	—	4 15 0
STEEL: English spring, nominal according to quality	40 0 0	60 0 0
" " cast	—	80 0 0
" Rails at works, according to section	3 12 6	4 15 0
Lead.		
Spanish or soft foreign	9 15 9	10 0 0
English pig, common	10 0 0	10 2 6
" L.B.	—	10 10 0
" sheet and bar	—	10 17 6
" pipe	—	11 7 6
" red	—	12 10 0
" white	—	16 10 0
" patent shot	—	14 5 0
Spelter.		
Silesian ordinary brands	15 7 6	15 10 0
" special brands	15 10 0	15 12 6
English Swansea	15 0 0	16 2 6
Sheet Zinc	18 15 0	19 0 0
Antimony.		
Antimony	32 0 0	33 0 0
Quicksilver.		
Flasks, 75 lbs. warrants	—	6 5 0
Manganese.		per unit.
Ore, c.i.f., U.K. ports		
1st quality, 50 per cent. and upwards	0 0 10¾	0 0 11
2nd " 47 per cent. to 50 per cent.	0 0 9¾	0 0 10¾
3rd " 40 " 47 per cent.	0 0 8	0 0 10
Aluminium.		Per lb.
98-99½ per cent. (guaranteed 98 per cent. min.) In ingots (1 cwt. lots)		0 1 9¾
do do (1 ton lots)		0 1 9
Nickel.		
98-99 per cent. guaranteed	0 1 6¾	0 1 7¾

"THE MINING JOURNAL" SHARE LIST.

ABBREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—*Ay*, Antimony; *A*, Arsenic; *Bl*, Blende; *Bx*, Borax; *C*, Copper; *D*, Diamond; *G*, Gold; *I*, Iron; *L*, Lead; *M*, Mundic; *N*, Nitrates; *P*, Phosphates; *Q*, Quicksilver; *R*, Ruby; *S*, Silver; *S-l*, Silver-lead; *Sul*, Sulphur; *T*, Tin; and *Z*, Zinc. * in the "called-up" column of British Mines, signifies that the mine is conducted on "Cost Book" principles: ‡ in the "Head Office" column of African Mines, signifies that the address given is not that of the head office, but of a sub- or transfer office and †, following the names of African mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire it to be understood that, while our Share List will almost invariably be found correct; we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.

BRITISH MINES.

Name.	Closing Price, Aug. 17, 1894	Closing Price, Aug. 10, 1894.	Par.	Latest Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
			£ s.		£ s. d.			
Atlas T	—	—	1 0	—	1 0 0	12,000	Devon	Camborne.
Blue Hills CT	2/6 7/6	7/6	*	2/- May, '81	5 12 6	5,253	Cornwall	Camborne.
Botallack T	1 1¼	1¼	*	—	51 4 6	1,880	Cornwall	St. Just.
Carn Brea T	8¾ 8¾	8¾	*	2/6 Dec., '93	21 18 5	6,000	Cornwall	Carn Brea.
Cook's Kitchen T	10/- 15/-	4/-	*	—	35 15 10	4,900	Cornwall	Camborne.
Cumberland L	—	—	1 0	5% May, '88	1 0 0	51,988	Cumberland	7, Angel-court E.C.
Derwentwatr. CLZ	—	—	1 0	—	1 0 0	10,050	Cumberland	Manchester.
Devon Gt Cons. CA	22/6 27/6	27/6	5 0	3/- May, '94	2 0 0	10,240	Devon	8, Finsbury-circus.
Dolcoath T	68 69	68	*	12/6 Apr., '94	9 12 6	4,700	Cornwall	Camborne.
Drakewalls CTM	-/3 -/6	-/6	0 5	—	0 2 0	61,856	Cornwall	Dashwood House.
EastGrassington L	—	—	1 0	—	1 0 0	20,995	Yorkshire	5, Copthall-buildings
East Pool AT	7¾ 8¾	7	*	1/6 June, '94	0 9 9	6,400	Cornwall	Illogan.
Gawton CA	—	—	2 10	—	2 7 0	12,000	Devon	20, Great St. Helens.
Great Laxey L	1 2	2	4 0	5/- Apr., '92	4 0 0	15,000	Isle of Man	Douglas, Isl of Man.
Green Hurth L	1/3 1/9	1/9	1 0	-/6 June '89	0 13 0	32,000	Cumberland	Newcastle.
Halkyn L	—	—	1 0	2/- June, '94	1 0 0	10,000	Flintshire	Chester.
Hexworthy T	—	—	1 0	—	1 0 0	14,634	Devon	6, Queen-street-place
Isle of Man L	—	—	5 0	6/8 Sep. '93	5 0 0	14,000	Isle of Man	Chester.
Killifreth T	2⅞ 3⅛	2⅞	*	2/- July, '94	5 11 6	6,000	Cornwall	Truro.
Kingside LBl	—	—	1 0	3/- May, '92	1 0 0	15,919	Cardiganshire	6 Queen-street-place.
Lead Hills L	12/6 17/6	17/6	6 0	3/- Sep. '92	6 0 0	20,000	Lanarkshire	30, Finsbury-circus.
Levant CT	—	—	*	2/6 July, '94	11 9 6	2,500	Cornwall	Penzance.
Lovell T	—	—	*	1/3 Nov., '91	1 16 7	7,165	Wendron	3, Gt. Queen-st., S.W.
Minera (New) L	—	—	5 0	5/6 Mar. '90	5 0 0	9,000	Denbighshire.	Minera, N. Wales.
Nenthd&Tndle. LZ	-/6 1/-	1/-	1 0	6% Feb., '91	0 18 0	48,815	Northumberld	Newcastle-on-Tyne
New Balleswidd'n T	—	—	1 0	—	1 0 0	25,000	Cornwall	St. Clement's Ho., E.C
NewCooksKitn. TC	—	—	*	—	10 18 3	4,900	Cornwall	Camborne.
Pedn-an-drea T	—	—	*	—	4 3 6	7,000	Cornwall	Redruth.
Phoenix United TC	1/- 3/-	3/-	*	1/- Mar. '90	7 4 6	10,666	Cornwall	Liskeard.
Polberro T	20/- 25/-	20/-	*	—	3 7 9	18,000	Cornwall	37, Walbrook.
Prince of Wales TC	2/- 3/-	3/-	0 10	—	0 8 3	94,287	Cornwall	8, Draper's-gardens.
So. Condurrow TC	10/- 15/-	12/6	*	3/6 Apr. '93	17 17 7	6,123	Cornwall	20, Great St. Helens
South Crofty TA	1⅜ 1⅝	1¾	*	—	17 7 6	6,120	Cornwall	Pool, Cornwall.
S. Frances Untd. T	10/- 15/-	10/-	*	—	2 7 6	6,000	Cornwall	Redruth.
Tincroft T	11½ 12	10¾	*	2/- Aug. '94	15 7 6	6,000	Cornwall	Carn Brea.
Weardale L	7/-	7/-	4 0	1/3 Oct. '90	1 10 0	60,000	Durham	3, Lombard-court.
West Frances T	20/- 30/-	30/-	—	2/6 May, '89	16 0 7	6,144	Cornwall	Camborne.
West Kitty T	5¼ 5¾	5¼	*	4/- Jan, '94	1 2 0	6,000	Cornwall	37, Walbrook.
Wheal Agar TA	1½ 1¾	25/-	*	2/6 Aug. '88	23 5 2	6,000	Cornwall	Redruth.
Wheal Basset TC	25/- 30/-	25/-	*	10/- Apr. '88	12 9 6	6,144	Cornwall	Redruth.
Wheal Friendly T	-/6 1/-	1/-	*	—	0 12 9	10,000	Cornwall	110, Cannon-st., E.C.
Wheal Grenville T	17½ 18¼	17 xd	*	5/- Aug. '94	18 3 0	6,000	Cornwall	7, Union-court, E.C.
Wheal Kitty T	10/- 12/-	8/-	*	3/- Mar. '88	4 5 6	8,590	Cornwall	Truro.
Wheal Metal &F. T	⅜ ⅝	⅝	*	—	0 13 9	10,784	Cornwall	14, Broad-street Av.

AUSTRALIAN AND NEW ZEALAND MINES.

Name.	Closing Price, Aug. 17, 1894	Closing Price, Aug. 10, 1894.	Par.	Latest Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Achilles Gld Fld.	2/6 3/6	3/6	1 0	—	1 0 0	80,307	New Zealand	3, Church Pas., E.C.
Aladdins Lamp G	15/- 17/6	16/3	1 0	1/- Apr. '94	1 0 0	100,000	N. S. Wales	4-6, Throg. Avenue.
Amana (Went.) G	—	—	1 0	—	1 0 0	75,000	N. S. Wales	5, Throg. Avenue.
Amana (Went.) G	—	—	1 0	—	0 12 6	25,000	N. S. Wales	5, Throg. Avenue.
Anglo-Saxon G	—	—	1 0	2/- July, '89	1 0 0	51,000	Queensland	4, Lombard-court.
Australasian G	1/3 1/9	1/9	1 0	-/6 Mar., '92	1 0 0	210,000	Queensland	6, Queen-st. place
Australian C	—	—	20 0	1/6 July '94	7 7 6	18,315	So. Australia	15, Old Jewry Chbrs.
Aus. Bro. Hill Con.	2/3 2/9	2/3	1 0	1/- June, '91	1 0 0	637,136	N. S. Wales	Winchester House.
Baker's Creek G	1⅜ 1⅝	26/3	1 0	1/- July '94	0 17 8	160,000	N. S. Wales	Hillgrove, N.S. Wales
Bayley's Reward G	16/- 17/-	17/- xd	1 0	-/4 July, '94	1 0 0	480,000	W. Australia	2, Met. Ex. Buildings
Blue Spur & G. G.	-/6 1/-	1/-	1 0	—	1 0 0	80,098	New Zealand	6, Gt. St. Helens'
Bonnie Dundee G	2/9 3/3	3/3	1 0	—	0 18 0	120,000	Queensland	3-5, Gracechurch-st
Do. Pref.	—	—	1 0	2/- May, 94	1 0 0	7,268	Queensland	3-5, Gracechurch st.
Brilliant G	10/6 11/6	10/-	2 0	-/3 July, '94	2 0 0	250,000	Queensland	Charters Towers.
Brilliant Block G	26/3 27/6	1⅜	2 0	-/9 July, '94	2 0 0	250,000	Queensland	3, Gracechurch-st.
Brilliant, St. Geo.	14/- 15/-	16/- xd	0 10	6d July, 94	0 6 3	72,000	Queensland	Charters Towers.
Brit. Brok. Hill S	3/9 4/3	4/6	5 0	—	5 0 0	240,000	N. S. Wales	Dashwood Ho., E.C.
Broken Hill Prop.	54/- 56/- xd	2⅝ xd	0 8	1/- July '94	0 8 0	960,000	N. S. Wales	Abchurch Chambers.
Brkn. Hill P. Bl.10	—	—	10 0	1/- Feb. 94	9 13 0	100,000	N. S. Wales	117, Leadenhallst. EC‡
Brkn. Hill P. Bl.14	—	—	5 0	—	5 0 0	100,000	N. S. Wales	117, Leadenhallst. EC‡
Carrington G	-/9 1/3	1/3	12/6	—	0 12 6	100,007	Queensland	9, Tokenhouse Yard.
Craven's Cal.	4/6 5/-	5/-	0 6	-/3 June '94	0 4 8	100,000	Queensland	30-1, S. Swithin's-le.
Croydon King Blk.	—	—	0 5	—	0 5 0	60,000	N. Queensland	Leadenhall Blg. E.C.
Cumbrind (New) G	-/6 1/-	1/-	1 0	2/6 Dec., '87	1 0 0	184,290	Queensland	Blomfield House. E.C
DayDawn B.&W. G	6/6 7/6	7/6	1 0	-/6 Mar. 93	1 0 0	498,400	Queensland	3-5, Gracechurch-st.
Day Dawn P. C. G	3/- 3/6	3/6	1 0	-/6 Apr. '92	1 0 0	490,000	Queensland	Winchester Ho., E.C
Eaglehawk G	1/- 1/6	1/6	1 0	—	0 19 3	120,000	Victoria	31, Lombard-street.
Eng. & Aus. Cop. Cu	1/16	1/16	2 0	2% 1883	1 17 6	70,000	So. Australia	136, Palmerston-blds
Eng. & Aus. 6% Deb.	—	—	50 0	6% July, '94	50 0 0	700	So. Australia	136, Palmerston-blds
Etheridge G	—	—	0 5	—	0 5 0	324,390	Queensland	6-7, Queen-street-pl.
Frederick the Gt G	—	—	1 0	—	1 0 0	125,000	Victoria	St. George's House.
Glenrock	2/- 2/6	2/6	1 0	—	0 19 6	225,000	N. Zealand	3-5, Queen-st. E.C.
Golden Gate G	1/3 1/9	1/9	0 10	—	0 10 0	150,000	Queensland	9, Tokenhouse Yard.
Harrietville G	—	—	1 0	-/6 July, '90	1 0 0	146,330	Victoria	6-7, Queen-street-pl.
Kaboonga G	1/- 1/6	1/6	0 10	—	0 10 0	500,000	Queensland	70-71, Bishopsgate st.
Kangarilla S	1/9 2/3	2/-	1 0	—	1 0 0	88,275	So. Australia	68, Coleman-street.
Kapanga G	3/- 3/6	3/3	1 0	-/6 Jan. '91	0 19 0	250,000	N. Zealand	9, New Broad-street.
Kilkivan	1/6 2/-	2/-	1 0	—	1 0 0	81,392	Queensland	4, Coleman-street.
Midas G. F. G	—	—	1 0	—	1 0 0	180,000	Victoria	32, Poultry, E.C.
Mills' Day Dawn G	1¼ 1⅜ xd	1⅜ xd	1 0	-/6 July '94	0 15 9	300,000	Queensland	3, Gracechurch-st.
Moruya GS	—	—	1 0	—	1 0 0	58,235	N. S. Wales	16, St. Helen's-place.
Mosman G	1/3 1/9	2/6	1 0	-/3 Jan., '94	1 0 0	185,000	Queensland	3-5, Gracechurch-st.
Mt. Leyshon G	-/6 1/-	1/-	1 0	-/6 Dec. '90	1 0 0	157,989	Queensland	7, Draper's-gardens.
Mountain Maid G	1/- 2/-	2/-	0 10	—	0 6 3	56,000	Queensland	Leadenhall Bldgs.
Mount Morgan G	2⅜ 2⅝ xd	2 9/16 xd	1 0	-/6 July '94	0 17 6	1,000,000	Queensland	50, Lime-street.
Mt. Shamrock GB	—	—	1 0	—	1 0 0	275,000	Queensland	9, Tokenhouse-yard.
Mount Zeehan	-/6 1/-	1/-	1 0	—	1 0 0	193,257	Tasmania	Mansion Ho. Cham.
N. Smithfield G	—	—	0 10	3/- July, '94	0 10 0	48,000	Gympie	Queensland.
New Queen G	6/- 6/6	6/6	1 0	-/6 Apr., '94	0 19 6	158,915	Queensland	30, St. Swithin's-la.
No. 7 N. E. Queen	-/6 1/-	1/-	0 10	-/3 Sept. '92	0 8 9	96,000	Queensland	30, St Swithin's-ln.
PhoenixGold.Pile G	—	—	0 5	1/6 July '94	0 5 0	48,000	Gympie	Gympie, Queensland
Port Phillip G	—	—	0 5	—	5 0	200,000	Victoria	57, Moorgate-st., E.C.
Queen's Bthdy Un	—	—	1 0	—	0 10 0	75,000	Victoria	7-8, Gt. Wnchster St.
Queens. Smelting	1/16 ⅜	⅜	0	—	1 0 0	38,244	Queensland	9, Tokenhouse Yard.
ScottishAustralian	¾ 1	1	1 0	4 4-5d. May, '94	1 0 0	200,000	N.S. Wales	Winchester Ho. E.C.
Sunburst	—	—	0 10	-/6 Mar. '92	0 10 0	150,000	Queensland	9, Tokenhouse Yard.
Tasmanian Crown	—	—	1 0	—	1 0 0	125,990	Tasmania	8, Old Jewry, E.C.
Tipperary	—	—	1 0	—	1 0 0	35,000	N. Zealand	3-5, Queen-st., E C.
True Blue	—	—	1 0	-/3 July, '94	1 0 0	53,000	Australia	Leadenhall Blg. E.C.
Victoria Associatn.	—	—	1 0	-/3 Aug. '94	1 0 0	144,000	Char. Towers	6, Crosby-square
Victory G	5/- 6/-	6/-	0 5	-/6 Mar., '94	0 5 0	200,000	Queensland	32, Gresham-st., E.C
Waihi G	1¼ 1⅜	⅜ xd	1 0	1/- June '94	1 0 0	150,000	New Zealand	11, Abchurch-ln. E.C
Wentworth Ord. G	3/6 4/6	4/-	1 0	—	1 0 0	350,000	N. S. Wales	4-6, Throgmort. Av.
Went. Priority	⅜ 7/16	9/-	1 0	6/- Jan. '93	1 0 0	150,000	N. S. Wales	4-6, Throgmort. Av.
W. Argentine G	-/9 1/-	1/3	1 0	—	0 19 0	150,000	N. Zealand	3-5, Queen-street.
W. Australian G.F.	1⅜ 1⅝	21/3	1 0	—	1 0 0	} 65,000	W. Australia	28-29, S. Swithin's-ln.
W. Australian G.F.	3/- 5/-	5/-	1 0	—	0 4 0		W. Australia	28-29, S. Swithin's-ln.
Zeehan Montana	—	—	1 0	5d Aug., 94	1 0 0	66,000	Tasmania	11, Queen Victoria st
Zeehan Montana	—	—	1 0	5d Aug., 94	0 12 6	12,600	Tasmania	11, Queen Victoria st

EUROPEAN MINES.

Name.	Closing Price, Aug. 17, 1894	Closing Price, Aug. 10, 1894.	Par.	Latest Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Alamillos L	⅜ ⅝	⅝	2 0	-/3 Sept. '92	2 0 0	35,010	Spain	6, Queen-street-place
Avala Q	0 ⅝	⅝	1 0	1/- May '93	1 0 0	150,047	Servia	4, Tokenho. Bldgs.
Consett Ore	5 5⅜ xd	5⅜ xd	1 0	5/- July '94	1 0 0	65,200	Spain	19, Grey-st., N'castle.
English Cr. Spelter	⅜ ⅝	⅝	1 0	2½% Aug. '94	1 0 0	84,000	Lombardy	9, Queen-street-place
Fortuna L	10/- 15/-	15/-	2 0	-/6 Sept. '92	2 0 0	25,000	Spain	6, Queen-street-place
Libiola C	3¼ 3½	3⅜	5 0	5/- Mar. '94	5 0 0	60,400	Italy	Dashwood Ho., E.C.
Linares L	2⅜ 3	3	3 0	4/- May, '94	3 0 0	14,998	Spain	6, Queen-street-place
Marbella I	50/- 55/-	2¾	10 0	8/- Mar. '93	10 0 0	25,000	Spain	78, Queen Victoria-st.
Mason & Barry C	2⅜ 3⅛	2⅜	5 0	2/- May. '94	5 0 0	165,172	Portugal	87, Cannon-street.
Oscar G	—	—	5 0	—	0 4 6	117,240	Norway	6a, Austin Friars.
Pestarena G	2/6 3/-	3/-	3 0	—	3 0 0	67,809	Italy	6-7, Queen-street-pl.
Pontgibaud L	—	—	20 0	11/5 Dec. '93	20 0 0	14,000	France	6-7, Queen-street-pl.
Rio Tinto C	14 5/16 14 7/16	13¾	10 0	7/- May, '94	10 0 0	325,000	Spain	30, St. Swithin's-lane
Do. (Mort. Bonds)	103 105	105	100 0	6% July, '94	100 0 0	£1892,740	Spain	30, St. Swithin's-lane
Do. (2nd do.)	101 103	103	100 0	5% July, '94	100 0 0	£1024,860	Spain	30, St. Swithin's-lane
Do. (3rd do.)	99 101	101	100 0	5 p.c. July, 94	100 0 0	£517,080	Spain	30, St. Swithin's lane
Ripanji SQ	6/- 7/-	7/-	1 0	—	0 19 0	95,000	Servia	120, Bishopsgt-st. Wn.
Tharsis C Sul	4¼ 4⅝	4⅜	2 0	12½% Mar. '94	2 0 0	625,000	Spain	Glasgow.
West Prus Pre. pref	—	—	10 0	8% June '94	10 0 0	385	Germany	Walbrook Ho., E.C.
West Prussian Pre.	—	—	10 0	8% June, '94	10 0 0	5,450	Germany	Walbrook Ho., E.C.
West Prussian Or.	—	—	10 0	8% June, '94	10 0 0	14,050	Germany	Walbrook Ho., E.C.
Wohlfahrt L	—	—	1 0	3% June, '94	1 0 0	89,634	Prussia	17, Victoria-st., S.W.
Wohlfahrt L	—	—	1 0	3% June, '94	0 10 0	9,080	Prussia	17, Victoria-st., S.W.

INDIAN AND ASIATIC MINES.

Name.	Closing Price, Aug. 17, 1894	Closing Price, Aug. 10, 1894.	Par.	Latest Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d.			
Asia Minor Pref. Sl.	—	—	0 10	—	0 10 0	47,430	Asia Minor	2, Metal Ex. Bldgs.
Do. Ord.	—	—	0 10	—	0 9 0	51,584	Asia Minor	2, Metal Ex. Bldgs.
Balaghat Mysore G	7/6 8/6	8/-	1 0	—	0 17 0	160,000	India	6-7, Queen-street-pl.
Burma Ruby R	3/6 4/6	4/6	1 0	—	0 17 0	300,000	Burmah	Suffolk House, E.C.
ChampionReef G	3⅜ 3¾	3⅝	1 0	2/- Aug. '94	1 0 0	200,000	India	6-7, Queen-street-pl.
Colar Central G	-/3 -/9	-/6	1 0	—	1 0 0	200,000	India	Dashwood Ho., E.C.
Coromandel G	1/- 2/-	2/-	1 0	—	0 12 6	95,000	India	6-7, Queen-st.-place.
DevAla Moyar G	—	—	1 0	—	1 0 0	200,000	India	34, Nicholas-lane.
Gemming&Mining	—	—	2 0	—	1 7 6	19,594	Ceylon	183, Gresham House.
GoldFldsMysore G	22/6 23/6	22/-	1 0	1/- July '92	1 0 0	220,000	India	6-7, Queen-street pl.
Gold Flds Siam G	—	—	1 0	—	1 0 0	150,000	Siam	19, St. Swithin's-lane.
Hyderabad Dec.	—	—	10 0	—	10 0 0	115,000	Deccan	16, St. Helen's-place.
Kempinkote GdFd	3/9 4/-	3/3	0 5	—	0 3 8	665,473	India	6-7, Queen-st.-place.
Mysore G	2⅜ 2⅝	2 7/16	1 0	2/- July, '94	1 0 0	250,000	India	6-7, Queen-street pl.
My. Harnballi G	1/6 2/-	2/-	1 0	—	0 18 0	100,000	India	2, East India Avenue
Mysore Reefs G	11/6 12/6	12/6	1 0	—	0 19 6	134,788	India	6-7, Queen-street-pl.
Mysore West (N) G	7/6 8/6	8/6	1 0	—	0 18 0	127,408	India	Dashwood Ho., E.C.
Mysore Wynaad G	6/9 7/3	7/6	1 0	—	0 18 0	250,000	India	Dashwood Ho., E.C.
Nerbudda Coal &In	⅛ ¼	¼	3 0	—	2 11 0	49,639	India	213, Gresham House
Nine Reefs G	1/6 2/3	2/6	0 10	—	0 10 0	50,000	India	6-7, Queen-street-pl.
Nine Reefs	—	2/-	0 10	—	0 9 6	200,000	India	6-7, Queen-street-pl.
Nundydroog G	1 11/16 1¾	1¾	1 0	1/- Mar. '94	1 0 0	200,000	India	6-7, Queen-street-pl.
Ooregum (Df.O.) C	3 13/16 3 15/16	3⅞ xd	1 0	4/6 July, '94	1 0 0	145,000	India	6-7, Queen-street-pl.
Do. (10% Pref.).	3¼ 3⅜	3¾	1 0	4/- July, 94	1 0 0	95,536	India	6-7, Queen-street-pl.
Do. (10% Pref.).	2¾ 3	3	1 0	4/- July '94	0 5 0	24,464	India	6-7, Queen-street-pl.
Pahang Corpn.	7/- 8/-	8/-	1 0	15% Apr. '89	1 0 0	203,070	Malay Penin.	Blomfield Ho., E.C.
Pahang Kabang	1/16 3/16	3/16	1 0	—	1 0 0	394,760	Malay Penin.	4a, Jeffrey's sq., E.C.
South E. Mysore G	4/9 5/3	4/9	0 4	—	0 3 9	134,623	India	6-7, Queen-street-pl.

NORTH AMERICAN MINES.

Name.	Closing Price, Aug. 17, 1894	Closing Price, Aug. 10, 1894.	Par.	Latest Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Alaska Mexican G	—	—	$5	—	$5	160,000	Alaska	30, St. Swithin's-ln.
Alaska Treadwell G	3⅜ 3⅝	3 7/16	$25	1/6 July, '94	$25	200,000	Alaska	30, St. Swithin's-ln.
Almada and T. S	-/3 -/9	-/9	2/6	—	0 2 6	351,008	Mexico	6, Queen-street-place
American Belle S	2/- 2/6	2/6	1 0	-/6 Mar. '91	1 0 0	398,890	Colorado	25a, Old Broad-street
Anglo Mexican	—	—	5 0	3/- Jan. '90	5 0 0	74,850	Mexico	23, College Hill.
Arizona (Pref.) Cu	—	—	4 0	—	4 0 0	158,920	Arizona	74, Geo.-st., Edinbor'
Do. 10% Deben.	—	—	100 0	7% May '94	100 0 0	2,660	Arizona	74, Geo.-st., Edinbor'
Big Creek Ay.	—	—	1 0	1/- Dec. '91	1 0 0	60,000	Nevada	2, Pancras-lane, E.C.
California G	—	—	0 10	-/6 May 90	0 8 9	129,571	Colorado	St. George's Ho. E.C.
Canadian Phos. P	—	—	1 0	-/6 Nov. '90	1 0 0	73,334	Canada	155, Fenchurch-st.
Chiapas	—	—	1 0	—	1 0 0	211,510	Mexico	33, Broad-st. Av. E.C.
Colorado Boy S	—	—	1 0	—	1 0 0	112,491	Colorado	Abchurch-chbrs, E.C
Cortez	—	—	1 0	3% Feb. '93	1 0 0	300,000	Nevada	Suffolk House, E.C.
Decatur Sl.	—	—	1 0	—	1 0 0	32,500	Colorado	35, Queen Victoria-st.
Do. (Pref.)	—	—	1 0	—	1 0 0	12,500	Colorado	35, Queen Victoria-st.
De Lamar GS	17/6 18/6	19/- xd	1 0	1/- June '94	1 0 0	400,000	Idaho	6, Draper's-gardens.
Dickens Custer GS	—	-/1½	1 0	—	0 19 9	420,000	Idaho	Winchester Ho. E.C.
Elkhorn S	12/6 13/6	12/- xd	1 0	-/9 July, '94	1 0 0	175,007	Montana	6, Draper's-gardens.
Emma S	-/2 -/4	-/4	0 5	—	0 5 0	403,618	Utah	15, Geo-st, Mansn. Ho
Flagstaff S	—	—	1 0	—	0 18 3	240,000	Utah	Dashwood Ho., E.C.
Fisk G	—	—	1 0	6d May, 94	1 0 0	134,000	Colorado	5, Fenchurch st.
Garfield GS	—	—	1 0	-/6 Dec. '88	0 19 6	98,185	Nevada	Suffolk House, E.C.
Gen. Mining Assoc.	7 7⅛	7⅛	8 0	15/- Apr. '94	8 0 0	27,469	Nova Scotia	Blomfield Ho., E.C.
Golden Feather G	7/- 8/-	8/-	1 0	—	1 0 0	180,000	California	St. Stephens Cs E.C.
Golden Gate	4/- 5/-	5/6	1 0	—	0 19 6	79,600	California	St. Stephens Cs E.C.
Golden Leaf G	1/- 1/6	1/6	1 0	—	1 0 0	300,259	Montana	8, Draper's Gardens.
Golden Valley G	—	—	1 0	—	1 0 0	55,507	Colorado	15, Angel Court.
Harquahala G	6/6 7/6 xd	9/- xd	1 0	-/9 June '94	1 0 0	300,000	Arizona	6, Draper's Gardens.
Holcomb Valley G	-/4½ -/7½	-/7½	0 5	—	0 5 0	540,000	California	14, Cornhill. E.C.
Idaho GS	1/3 1/6	1/6	1 0	—	0 4 8	143,439	Idaho	140, Leadenhall-st.
Jackson Goldfields	—	—	5 0	—	0 5 0	408,635	California	11, Poultry, E.C.
Jay Hawk G	5/6 6/6	6/6	1 0	-/6 Dec. '92	1 0 0	285,000	Montana	Dashwood House.
Kohinoor "B" GS	—	—	1 0	-/6 June, '81	1 0 0	112,901	Colorado	Blomfield Ho., E.C.
La Plata S	-/4½ -/7½	-/7½	0 5	1/3 Oct. '82	0 4 3	405,000	Colorado	11, Poultry, E.C.
Maid of Erin	—	—	1 0	4c. psh Mar, '94	1 0 0	575,000	Colorado	43, Threadneedle-st.
Mammoth Gold	-/3 -/6	-/6	1 0	—	1 0 0	400,000	Pinal Arizona.	257, Winchester Ho.
Mesq. d'l Oro (P) G	—	—	5 0	—	5 0 0	10,000	Mexico	Dashwood Ho., E.C.
Mesq. d'l Oro (D) G	—	—	5 0	—	5 0 0	10,000	Mexico	Dashwood Ho., E.C.
Montana	12/9 13/6	13/6	1 0	5% April '91	0 19 0	657,158	Montana	Gresham House, E.C.
New Colorado	—	—	1 0	—	0 17 0	65,000	Colorado	Abchurch Cham. E.C
N. Consolidated SC	—	—	0 5	—	0 3 6	248,576	Nevada	15, Angel-court, E.C
N. Gold Hill G	-/2 -/4	-/4	1 0	—	0 19 9	191,045	N. Carolina	15, George-st., E.C.
New Guston S	11/16 13/16	15/-	1 0	1/- Oct. '92	1 0 0	110,000	Colorado	25a, Old Broad-st.
New Hoover Hill G	—	—	0 10	-/9 Dec. '85	0 10 0	120,000	N. Carolina	Langthorne Ho., E.C
New London	—	—	2/6	—	0 2 6	327,816	New Carolina	55, Bishopsgt.-st. Wn
New Vancour. Coal	⅜ ⅝	⅝	1 0	3% May, '94	1 0 0	215,000	Brit. Columbia	12, Old Jewry Chm.
Palmarejo GS	-/6 1/-	1/-	1 0	—	1 0 0	418,888	Mexico	4, Copthall-buildings.
PinosAltos (Df) GS	6/- 7/-	6/-	1 0	-/6 Mar. '90	1 0 0	100,000	Mexico	110, Cannon-street.
Do. 15% Cum Pref	—	—	1 0	—	1 0 0	60,000	Mexico	110, Cannon street.
Pittsbg Con. (N) G	—	—	1 0	1/6 Mar. '88	1 0 0	77,147	Nevada	Suffolk House, E.C
Poorman Con.	2/6 3/6	3/6	0 5	—	0 5 0	273,948	Idaho	5, Copthall-b'gs. E.C
Red Mountain S	—	—	1 0	—	1 0 0	46,686	Colorado	11, Poultry, E.C.
Richmond GSL	7/6 10/-	8/9	5 0	1/- Sep. '93	5 0 0	54,000	Nevada	44, Coleman-street.
Ruby GSL	—	—	0 5	—	0 5 0	221,371	Nevada	22 St. Mary Axe.
Sierra Buttes G	7/- 9/- xd	9/- xd	2 0	-/6 Apr. '94	2 0 0	122,500	California	138, Leadenhall-st.
Do. Plumas Eur. G	12/6 15/- xd	15/- xd	2 0	-/9 Apr. '94	2 0 0	140,265	California	138, Leadenhall-st.
Springdale G	1/3 1/9	1/9	$1	2d Mar., 94	$1	1,000,000	Colorado	20, Abchurch Lane.
Twin Lake Placers	—	—	1 0	1/3 Mar. '94	1 0 0	24,564	Colorado	5, Lawrence P. Hl. E C
United Mexican S	1/- 1/6	1/6	1 0	2/6 May, '87	1 0 0	906,654	Mexico	3, Gt. Winchester-st.

SOUTH AND CENTRAL AMERICAN MINES.

Name.	Closing Price, Aug. 17, 1894	Closing Price, Aug. 10, 1894.	Par.	Latest Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Anglo-Chilian Pt N	4¾ 5¼	5¼	10 0	—	10 0 0	35,000	Antofagasta	123, Bishops.-st. W.
Do. 6% Rylst MB	92 95	95	100 0	—	100 0 0	£200,000	Antofagasta	123, Bishops.st. W.
Antio. (Pref.) G.S.	—	—	1 0	-/6 Mar. '90	1 0 0	22,820	Colombia	184, Gresham Ho.
Antioquia (ordiny)	—	—	1 0	—	1 0 0	42,453	Colombia	184, Gresham Ho.
Callao Bis G	-/9 1/3	1/3	1 0	—	1 0 0	316,248	Venezuela	60, Old Broad-street
Camarones C	—	—	2 0	—	2 0 0	67,000	Chili	123, Bishopsgt. Wn.
Caratal G	-/3 -/6	-/6	2/6	—	0 2 4	1,330,000	Venezuela	57, Moorgate-st. E.C
Caylloma S	—	—	2 0	1/- Apr. 94	2 0 0	125,000	Peru	52, Leadenhall street
Colon G	-/6 1/-	-/6	1 0	—	1 0 0	200,000	Colombia	5, Copthall-bdgs., E.C.
Colorado Nit. N	3 3⅜	3⅜	5 0	4% June, '94	5 0 0	32,000	Chili	12, King-st., Liverp'l.
Colombia G	—	—	20 0	10 frs. Aug. 94	20 0 0	—	Venezuela	Ciudad, Bolivar.
Colombian Hy G	12/- 13/-	13/-	1 0	1/- April '94	1 0 0	75,000	Colombia	10, Blomfield-street.
Copiapo C	1 13/16 1 15/16	1 11/16 xd	2 0	1/6 June '94	2 0 0	100,000	Chili	DashwoodHouse, E.C.
Darien G	—	—	1 0	—	1 0 0	71,359	Colombia	Manchester.
Don Pedro G	2/6 3/6	3/-	1 0	—	0 16 6	133,102	Brazil	24-5, Devonsh. Cs E.C.
El Callao G	13/6 16/6	17/6	5 0	9½d Feb. '94	5 0 0	287,600	Venezuela	6, Bishopsgt.-st. Wn.
Frontino & B. G	22/6 23/6 xd	23/- xd	1 0	1/3 June, '94	1 0 0	128,662	Colombia	184, Gresham House.
Glenrock G	2/- 2/6	2/6	1 0	—	0 18 6	199,948	Argen. (& Ind)	3-5, Queen-street, E.C
Glenrock (Pref.)	—	—	1 0	—	0 18 0	16,232	Argen. (& Ind)	3-5, Queen-street, E.C
Gravel G	6/6 8/-	6/6	1 0	—	0 19 6	100,000	Colombia	10, Blomfield-street.
Guadalupe	3/6 5/-	5/-	1 0	—	1 0 0	120,000	Honduras	11a, Unionct. Old Brdst
Huanchaca S	—	—	5 0	3/9 Oct., '93	5 0 0	320,000	Bolivia	10, Avnu. d Alma, Paris
Javali G	—	—	0 2	6¼% '91	0 2 0	105,234	Nicaragua	139, Cannon-street.
Julia Nit. N	—	—	5 0	—	5 0 0	30,000	Chili	79½, Gracechurch-st.
Lautaro N	5⅜ 6⅛	5⅞	5 0	5/- Jan. '94	5 0 0	55,000	Chili	70, Gracechurch-st.
Liverpool N	10⅜ 11⅜	11⅜	5 0	10/- Feb. '94	5 0 0	22,000	Chili	Liverpool.
Loma G	-/6 1/-	1/-	1 0	—	1 0 0	300,000	Colombia	5, Copthall-building.
London Nit. N	1¾ 2¼	2¼	3 0	3/4¾ Nov. '89	3 0 0	10,000	Chili	9, Gracechurch-st.
LondonNit. (Pref.)	3 3⅛	3⅛	5 0	5/- May, '94	5 0 0	22,000	Chili	9, Gracechurch-st.
Macate	1/- 1/6	1/9	0 2	—	0 2 0	200,000	Peru	11, Old Broad-st, E.C
New Tamarugal N	8/- 9/-	8/6	1 10	2½ p.c. July '94	1 10 0	130,000	Tarapaca	60, Lime-street, E.C
Do. 8% Cum Pref	16/- 17/-	16/-	1 10	8 p.c. July '94	1 10 0	130,000	Tarapaca	60, Lime-street, E.C
Do. 6 p.c. Debs	76 79	79	100 0	6 p.c. July '94	100 0 0	£260,000	Tarapaca	60, Lime-street, E.C
Orita G	1/6 2/-	2/-	1 0	1/- April '89	1 0 0	30,000	Colombia	10, Blomfield-street.
Ouro Preto G	—	—	1 0	—	0 18 6	80,000	Brazil	6, Queen-street-place
Pac. & Jazpampa N	3⅛ 4	3⅜	5 0	—	5 0 0	72,000	Tarapaca	3, Gracechurch-st.
Panulcillo C	—	—	2 0	1/- Nov. '89	2 0 0	112,500	Chili	13, Great St. Helens.
Primitiva N	3⅛ 3⅜	3⅜	5 0	20% Oct. '89	5 0 0	40,000	Chili	Liverpool.
Quebrada C	⅛ ⅜	6/3	3 0	5% Mar. '92	3 0 0	241,956	Venezuela	38, Nicholas Lane.
Quebrada G	—	55	Stk.	6% Feb., 94	100 0 0	£400,000	Venezuela	38, Nicholas Lane.
Rosario N	5¼ 5⅜ xd	5⅜	5 0	3/6 Feb. '94	5 0 0	120,000	Chili	57¼, Old Broad-street.
Rosario (5% Deb.)	103 105	105	100 0	6% Apr. '94	100 0 0	£475,000	Chili	57¼, Old Broad-street.
St. John del Rey G	20/6 21/6	22/-	1 0	10% June '88	1 0 0	272,435	Brazil	28, Tower-chmbrs, E.C
San Donato N	1¾ 2¼	2	5 0	—	5 0 0	22,000	Chili	12, King-st., Liverp'l.
San Jorge N	6¼ 6⅜	6⅜	5 0	10/- May '94	5 0 0	75,000	Chili	9, Gracechurch-st.
San Pablo N	3⅜ 4	3⅜	5 0	7½% Apr., '94	5 0 0	32,000	Chili	3, Gracechurch-st.

"THE MINING JOURNAL" SHARE LIST—(Continued).

SOUTH AND CENTRAL AMERICAN MINES—(*Continued*).

Name.	Closing Price, Aug. 17, 1894	Closing Price, Aug. 10, 1894.	Par.	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d.			
Santa Barbara ...G	—	—	0 10	1/3 Dec. '86	0 10 0	60,000	Brazil	Liverpool
Santa Elena ...N	⅞ 1⅛	1⅛	5 0	5/- Nov. '93	5 0 0	22,000	Tarapaca	3, Gracechurch-st.
Santa Rita ...N	3¾ 4	3½	5 0	15% Apr., '94	5 0 0	20,000	Chili	DashwoodHouse,E.C
San Sebastian ...N	2¼ 2½	2¼	5 0	1/6 May '94	5 0 0	29,000	Chili	DashwoodHouse,E.C
Segovia ...G	—	—	5 0	—	0 4 0	160,000	Colombia	5, Coptha'l-building
Sucre Pref. ...G	—	—	1 0	10% July '94	0 15 0	840	Colombia	23, St. Swithin's ln.
Sucre Ord. ...G	—	—	1 0	8% July '94	1 0 0	10,000	Colombia	23, St. Swithin's ln.
Tetuan ...G	—	—	1 0	—	0 19 6	200,000	Colombia	5, Copthall-buildings
Tolima "A" ...S	7¼ 8⅛	8¼ xd	5 0	10% June '94	5 0 0	14,000	Colombia	18, Finsbury-circus.
Do. "B" ...S	7 7½ xd	7½ xd	5 0	10% June '94	5 0 0	6,000	Colombia	18, Finsbury-circus.
Vic. & Altam.ra ...	—	—	0 5	—	0 5 0	200,000	Venezuela	Broad-st. Avenue.
West Indian ...G	—	—	0 5	—	0 5 0	700,000	San Domingo	49, Queen Victoria-st.
Zaruma ...G	—	—	0 5	—	0 5 0	261,422	Ecuador	1, Gt. Winchester-st

AFRICAN MINES.

Name.	Closing Price, Aug. 17, 1894	Closing Price, Aug. 10, 1894.	Par.	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Africkander ...G	20/- 22/6	22/6	1 0	—	1 0 0	40,000	Transvaal	19, St. Swithin's-lane
Agnes Block ...G	10/- 12/6	11/-	1 0	—	1 0 0	78,507	Transvaal	54, Old Broad-street.
Appantoo ...G	—	—	1 0	—	1 0 0	71,000	West Coast	9, New Broad-street.
Aurora ...G	5/16 5/16	6/-	1 0	5% Mar, '93	1 0 0	65,000	Witwatersrdt.	8, Old Jewry.‡
AuroraWest,NewG	5/- 7/-	7/-	1 0	5% Mar., '93	—	80,000	Witwatersrdt.	1, Crosby Square.‡
Balkis Eersteling...	-/3 -/6	-/6	0 10	—	0 9 6	520,000	Transvaal	85, Gracechurch-st.
Balkis Land ...	1/9 2/-	1/9	0 10	—	0 10 0	520,000	Transvaal	85, Gracechurch-st.
Banket ...G	-/9 1/3	1/-	1 0	—	1 0 0	200,000	Witwatersrdt.	Johannesburg.
Bantjes Reef ...G	14/6 15/6	15/6	1 0	—	1 0 0	83,000	Witwatersrdt.	Warnford-court.†‡
Barrett ...G	2/6 3/6	3/-	0 10	—	0 9 0	207,496	De Kaap	17, Basinghall-street
Bechuanaland Exp.	26/3 25/9	26/6	1 0	—	1 0 0	200,000	Bechuanaland	19, St.Swithin's-lane
Black Reef (New)...	5/6 6/6	6/6	1 0	—	1 0 0	76,000	Witwatersrdt.	9, King William-st ‡
Block "B" Lang.	6/- 6/6	6/-	1 0	—	1 0 0	535,000	Witwatersrdt.	8, Princes-st., E.C.‡
Booysen Land ...N	5/16 7/16	8/-	1 0	—	0 11 0	95,000	Transvaal	8, Princes st., E.C.‡
Do. Pref. ...	—	—	1 0	8% Mar., 94	0 10 0	71,174	Transvaal	4. Tokenhouse-blds.
Brit. S. A. Char. ...	34/3 34/9	34/6	1 0	—	1 0 0	2,000,000	S. Africa	19, St. Swithin's-lane
Buffelsdoorn ...G	27/6 28/6	29/-	1 0	—	1 0 0	250,000	Potchefstroom	8, Old Jewry.
Buluwayo Synd. ...	⅞ 1⅛pm	1⅛pm	1 0	—	1 0 0	12,000	Matabeleland	10, Helen's Place.
Cape Copper ...C	1 1⅛ xd	1⅛ xd	2 0	1/3 June '94	2 0 0	300,000	Cape Colony	9, Queen-street-place
Do. 6 % Pref. ..	1¾ 1⅞ xd	1⅞ xd	2 0	1/3 June '94	2 0 0	45,000	Cape Colony	9 Queen-street-place
Cen. Montrose... G	1/- 2/-	2/-	1 0	—	0 18 6	69,000	Transvaal	15, George st Mn.Ho.
Champ d'Or ...G	1¾ 1⅞	1⅞	1 0	—	1 0 0	116,016	Witwatersrdt.	8, Old Jewry, E.C.
Champ d'Or DeepG	8/6 9/6	9/6	1 0	—	1 0 0	275,000	Witwatersrdt.	Fox st., Johannesbrg
City and Suburb.G	14⅞ 15⅛	14⅛	1 0	25% Mar. '94	1 0 0	75,000	Witwatersrdt.	1, Crosby Square.‡
Coetzeestroom ...G	1/- 2/-	2/-	0 5	—	0 5 0	140,000	De Kaap	105, Leadenhall-street
Con. Bultfontein D	26/- 26/6	27/-xd	1 0	5% Nov. '89	1 0 0	721,500	Griqualand W	62, Lombard-st.
Con. Deep LevelsG	1¾ 1 13/16	1¾	1 0	4/- June '94.	1 0 0	187,250	Transvaal	30, St. Swithin's-lane.
Con. G. Fields S A.	2 5/16 2⅜	2 7/16	1 0	10% Nov. '93	1 0 0	1,250,000	S. Africa	8, Old Jewry.
Do. 5½% Deben..	99¾ 100¼	100⅛	5 0	5½ July, '94	5 0 0	600,000	S. Africa	8, Old Jewry.
Crown Reef ...G	8¼ 8¾	8½	1 0	25% May '94	1 0 0	120,000	Witwatersrdt.	23, Austin Friars.‡
De Beers Consol. D	14⅞ 15	14⅞	5 0	12/6 June '94	5 0 0	789,791	Transvaal	62, Lombard-street.
Do. 5¼% 1st Deb.	101¼ 102¼	102⅛	100 0	5¼% Feb. '94	5 0 0	£1,875000	Transvaal	62, Lombard-street.
Do. 5½% Bul. Ob.	102¾ 103½	103½	100 0	5½% Apr. '94	5 0 0	£720,100	Transvaal	62, Lombard-street.
Durban Roodept.G	5¾ 5 15/16	5¾	1 0	3/- June '94	1 0 0	£125,000	Witwatersrdt.	28, Leadenhall-bldgs.
East Rand ...	11/- 12/-	12/-	1 0	—	1 0 0	570,000	Witwatersrdt.	170, Winchester-ho.‡
Evelyn ...G	—	—	1 0	10% Jan. '89	1 0 0	66,000	Witwatersrdt.	28, Old Jewry, E.C
Exploration ...	15/- 20/-pm	20/- pm	1 0	1/- Dec. '93	0 4 0	148,000	S. Africa	30, S. Swithin's-ln.
Exploring Co. ...	4¼ 4¾	4⅛	1 0	25/- Feb. '94	1 0 0	69,350	S. Africa	19, S. Swithin's-ln.
Ferreira ...G	7⅞ 8¼	7⅜xd	1 0	100% June '94	1 0 0	45,000	Witwatersrdt.	29, HolbornViaduct.
Forbes Reef (Nw)G	3/- 5/-	5/-	1 0	—	0 19 0	105,000	De Kaap	45-6, Leadenhall-st.
Geldenhuis DeepG	3 13/16 3 15/16	3⅝	1 0	—	1 0 0	265,000	Transvaal	30, St. Swithin's-lane
Geldenhuis Est. G	5⅜ 5¾	5⅜	1 0	20% Mar. '94	1 0 0	187,500	Witwatersrdt.	29 & 30, Hol. Viaduct
Do. Main Reef	8/- 9/-	8/6	1 0	—	1 0 0	150,000	Witwatersrdt.	Warnford-court, E.C‡
George and May...	13/16 ⅞	20/-	1 0	—	—	112,750	Witwatersrdt.	Warnford Court, E.C
George Goch ...G	—	—	1 0	—	1 0 0	100,000	Witwatersrdt.	Johannesburg.
Glencairn ...G	31/6 32/6	32/6	1 0	—	1 0 0	200,000	Witwatersrdt.	2, Drapers-gardens.
Gold Estates T... G	3/6 4/6	4/6	1 0	15% Dec. '89	0 10 0	130,000	Transvaal	46, Queen Victoria-st
Gld. Fls. Deep...G	1 13/16 1 15/16	1 15/16	1 0	—	1 0 0	600,000	S. Africa	8, Old Jewry.
G. F. of Mashonld.	12/6 13/6	15/-	1 0	—	1 0 0	200,000	Mashonaland	19, St. Swithin's-ln.
G.F. Tierra d' Fuego	2/1½ 2/4½	2/4½	0 4	—	0 4 0	400,000	Mosambique	2, Tokenhouse Bldgs.
Grahamstown ..G	7/6 8/6	8/6	1 0	—	1 0 0	150,000	Witwatersrdt.	14, Throgmorton-st
Graskop ...G	1/ 1/3	1/3	0 5	2½% Mar. '92.	0 5 0	500,000	Lydenburg	85, Gracechurch-st.
Griqualand W....D	6 13/16 6 15/16	7 xd	10 0	4% March '94	10 0 0	105,700	Transvaal	62, Lombard-street
Henry Nourse...G	3¼ 3 5/16	3	1 0	—	1 0 0	100,000	De Kaap	Warnford-court.
Heriot (New) ...G	4⅞ 5	5¼	1 0	—	1 0 0	195,000	Witwatersrdt.	1, Crosby Square.‡
Joe's Luck ...G	1/- 1/6	2/-	1 0	—	1 0 0	57,404	De Kaap	11, Queen Vic.-st.
Johannesburg Pnr	3⅝ 3⅞	3⅞	1 0	12½% Nov., '93	1 0 0	21,000	Witwatersrdt.	Johannesburg.
Jubilee ...G	4 11/16 5 1/16 xd	5⅜	1 0	30% Aug. '94	1 0 0	30,000	Witwatersrdt.	8, Old Jewry.†
Jumpers ...G	4 4⅛ xd	4⅜	1 0	30% June '94	1 0 0	100,000	Witwatersrdt.	29, HolbornViaduct‡
Kimberley ...D	1/16 3/16 pm	3/16pm	1 0	—	0 10 0	98,672	Kimberley	19, Finsbury circus.
Kimberley Rdpt....	5/16 ⅜	7/6	1 0	—	1 0 0	125,000	Kimberley	2, Drapers-gardens.
Kleinfontein (N)G	1 9/16 1 11/16	1 11/16	1 0	—	1 0 0	150,000	Witwatersrdt.	8, Old Jewry.
Klerksdorp ...G	1/- 2/-	1/6	1 0	—	1 0 0	150 007	Transvaal	110, Cannon-street.
Koffyfontein ...D	15/- 17/6	⅞	1 0	—	0 5 0	50,000	Jacobsdaal	4, Bishopsgate street
Langlaagte Est. G	4 3/16 4¼	4⅜	3 0	12½% June '94	1 0 0	467,000	Witwatersrdt.	59, HolbornViaduct.‡
Do. Royal	2¼ 2¾	2¾	1 0	5% Sept. '93	1 0 0	100,000	Witwatersrdt.	2, Drapers-gardens.
Lisbon-Berlyn ..G	1/9 2/3	2/3	2/6	—	3 2 6	889,233	Lydenburg	110, Cannon-street.
London & S. A. Ex.	—	11	0 10	3/- June '94	0 10 0	100,000	S. Africa	19, Finsbury-circus.

AFRICAN MINES—(*Continued*).

Name.	Closing Price, Aug. 17, 1894	Closing Price, Aug. 10, 1894.	Par.	Latest Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
			£ s.		£ s. d.			
Luipaards Vlei Est.	8/- 9/-	9/-	1 0	6% Mar. '90	1 0 0	319,003	Witwatersrdt.	Warnford-court.‡
Do. do. do.	⅝ ¾	¾	1 0	—	0 10 0	25,000	Witwatersrdt.	8, Old Jewry.
Main Reef (New)G	8/6 9/6	10/-	1 0	—	0 10 0	300,000	Witwatersrdt.	8, Old Jewry.
May Consol. ...G	8/- 8/6	9/-	1 0	—	1 0 0	430,000	Witwatersrdt.	4, Lothbury.‡
May Deep Level G	9/- 9/6	10/-	1 0	—	1 0 0	146,000	Witwatersrdt.	33, Cornhill, E.C.
Mashon. Agency...	1/16 3/16pm	3/16 pm	1 0	—	0 10 0	100,000	Mashonaland	8, Old Jewry, E.C.
Mashon. Central...	—	—	1 0	—	1 0 0	200,000	Mashonaland	8, Old Jewry, E.C.
Matabeleland ...	—	—	12/6	—	0 12 6	79,889	Matabeleland	73, Basinghall St, E.C.
Metropolitan (N) G	1/16 3/16	11/3	1 0	—	1 0 0	75,000	Witwatersrdt.	1, Crosby Square.‡
Meyer & Charl....G	5⅜ 5½	5¼x all	1 0	25% June '94	1 0 0	71,687	Witwatersrdt.	Warnford-court.‡
Mines Trust ...	⅝ ¾	¾	1 0	3% May '94	1 0 0	82,774	So. Africa	130, Winchester Ho.
Modderfontein..G	1⅛ 1¼	15/-	1 0	—	1 0 0	200,000	Witwatersrdt.	Warnford-court.‡
Montrose ...G	⅜ ⅝	¾	1 0	3/- Feb. '90	1 0 0	70,000	De Kaap	65, New Broad-street
Moodies G.&E....G	7/6 8/6	8/-	1 0	-/4 May '90	1 0 0	240,000	De Kaap	8, Old Jewry.‡
Mozambique ...	12/6 15/-	15/-	1 0	—	1 0 0	400,000	S. E. Africa	Broad-street House.
Namaqua ...C	16/3 18/9	18/9	2 0	2/6 July '91	2 0 0	194,351	Namaqualand.	34, Leadenhall-blds.
New Chimes ...G	1⅜ 1⅞ xd	1⅞ xd	1 0	10% June, '94	1 0 0	70,000	Witwatersrdt.	8, Old Jewry. E.C.
New Clewer Estate	⅞ 1	1	1 0	—	1 0 0	100,000	Lydenburg	29-30, Holborn-viadt.
New Crœsus ...G	1¼ 1⅜	1 5/16	1 0	5% Aug. '92	1 0 0	195,000	Langlaagte	4, Bishopsgt.-st. Wt.
New Edwin Bray	—	—	7 0	—	7 0 0	65,000	De Kaap	23, College Hill
New Gordon ...D	3/6 4/6	4/6	1 0	5% Dec. '89	1 0 0	560,250	Griqualand	110, Cannon-street.
New Jagersf. ...D	13 3/16 13 5/16	12¼	10 0	5% Mar., '94	10 0 0	100,000	Transvaal	5, Copthall-buildings
New LouisD'Or..G	2/6 5/-	5/-	1 0	—	1 0 0	100,000	Witwatersrdt.	53, New Broad-street
New Primrose...G	4 4⅛	4¾	1 0	20% July '94	1 0 0	230,000	Witwatersrdt.	2, Draper's-gardens.
New RietfonteinG	15/16 1 1/16	20/-	1 0	—	1 0 0	160,000	Witwatersrdt.	Warnford-ct., E.C.
NewS.AugustineD	-/6 -/9	-/9	1 0	—	0 19 0	234,583	Griqualand W	30-1, St. Swithin's-ln
New Spes Bona ...	5/- 6/-	6/-	1 0	—	1 0 0	113,801	Witwatersrdt	24, N. John-st., L'pl.
N. Ophir Concess.	-/9 1/3	1/3	1 0	—	0 18 6	111,857	E. CoastAfrica	31, Lombard-street.
New Virginia ...G	2/3 2/9	2/9	0 10	—	0 9 0	48,335	Transvaal	26, Budge-row, E.C.
Nigel ...G	2¾ 2⅞	2⅞	1 0	15% June '94	1 0 0	160,000	Witwatersrdt.	1, Crosby-square.
Nooitgedacht E. G	—	—	1 0	—	1 0 0	160,000	Lydenburg	8, Old Jewry.
Oceana ...	2 3/16 2 5/16	1 13/16	1 0	25/- Nov. '89	1 0 0	150,000	Transvaal	4, Sun Court, E.C.
Oceana Develpmnt	⅛ dis par	⅛dispar	1 0	—	0 5 0	50,000	Transvaal	4 Sun Court, E.C.
Orange F.S.E. ...D	3¼ 3¾	3⅛	1 0	12½ Mar. 94	1 0 0	284,000	OrangeF.State	10, Moorgate-street.
Orion ...G	—	—	1 0	10% June '94	1 0 0	30,000	Witwatersrdt.	10, Basinghall-street
Otto's Kopje ...D	1/9 2/3	2/3	1 0	—	0 19 3	437,888	Kimberley	110, Cannon-st., E.C.
Paarl Central ...G	1 1 1/16	20/-	1 0	—	1 0 0	138,750	Transvaal	29-30, Hol. Via., E.C.
Paarl Ophir ...	—	—	1 0	5p.c. Apr. '94	1 0 0	12,000	Tweffontein	Cape Town.
Pardy's Mozambq.	—	—	0 10	10p.c. Apr. 94	0 10 0	13,000	S. E. Africa	Broad St. Avenue.
Piggs Peak, New G	1/3 1/9	2/6	1	—	0 16 6	230,326	Swazieland	6, Queen-street-place
Potchefstroom ...G	1/- 2/-	2/-	1 0	—	1 0 0	161,000	Potchefstroom	19, Bury-st., E.C.
Princess Estate G	1 1 1/16	21/3	1 0	—	1 0 0	72,046	Witwatersrdt.	33, Cornhill, E.C.
Randfontein ...G	14/3 14/9	15/-	1 0	—	1 0 0	1,916,500	Witwatersrdt.	59, HolbornViaduct.‡
Rand Mines ...	6¾ 8⅜	8⅜	1 0	—	1 0 0	332,708	Witwatersrdt.	29-30, Holborn Via.
Read's Drift ...D	8/6 9/6	9/6	1 0	—	—	50,000	Transvaal	19, Finsbury circus.
Robinson ...G	6⅛ 6¾ xd	6⅝	5 0	5% Aug. '94	5 0 0	543,750	Transvaal	59, HolbornViaduct‡‡
Roodepoort Un. G	2 11/16 2 13/16	2 13/16	1 0	—	1 0 0	106,000	Witwatersrdt.	Warnford-court.‡
Salisbury New...G	2 1/16 2 5/16	2⅛	1 0	—	1 0 0	93,000	Witwatersrdt.	1, Crosby-square.‡
Sheba ...G	28/- 28/6	28/-	1 0	1/- July, '94	1 0 0	614,450	Lydenburg	85, Gracechurch-st.
Silati ...G	2/- 2/6	2/6	1 0	—	0 16 0	625,000	Zoutpansberg.	4, Sun Court, E.C.
Simmer & Jack...G	7 1/16 7 5/16	7¼	1 0	10% May '94	1 0 0	85,000	Witwatersrdt.	33, Cornhill.
S.A. Gold Trust ...	25/- 27/6	27/6	1 0	10% April '93	1 0 0	220,000	South Africa.	8, Old Jewry.
S.Simmer & JackG	1 1/16 1 3/16	1 3/16	1 0	—	1 0 0	120,000	Witwatersrdt	31, Lombard-st., E.C.
Spitzkop (New) G	4/9 5/3	5/3	1 0	—	0 19 6	99,070	Lydenburg	15, Bishopsgt-st, Wt.
Stanhope ...G	2¼ 2⅛	2⅛	1 0	50% July. '94	—	34,000	Witwatersrdt.	1, Crosby Square.‡
Sutherland R. ...G	4/3 4/9	4/9	1 0	—	0 18 6	220,000	Zoutpansberg.	3, Budge-row, E.C.
Teutonia ...G	—	—	1 0	—	1 0 0	96,000	Witwatersrdt.	8, Old Jewry.
Thistle Reef ...	-/3 -/6	-/6	0 5	—	0 4 0	150,000	Barberton	15, Angel-court, E.C.
Trans. Coal Trust...	11/9 12/3	12/6	1 0	2½% May '94	1 0 0	439,965	Witwatersrdt.	Broad-st. House, E.C
Trans. Est. & Dev.	8/- 9/-	9/-	1 0	—	1 0 0	285,700	Transvaal	76, OldBroad-st. E.C.
Trans. Gold ...G	2 2 1/16	2 1/16	1 0	1/- June '94	1 0 0	250,000	Transvaal	Suffolk House, E.C.
Trans. Land ...	5/6 6/-	5/9	1 0	—	1 0 0	79,915	Transvaal	Suffolk House, E.C.
Trans. Land ...	2/- 2/3	2/6	1 0	—	0 15 0	169,999	Transvaal	33, Cornhill.
Treasury ...G	—	—	1 0	7½% May '94	1 0 0	26,000	Witwatersrnt.	Johannesburg.
Turffontein Est. ...	—	—	1 0	2½ Jan. 94	1 0 0	40,007	So. Africa	130, Winchester Ho.
Un. Ivy Reef ...G	13/9 16/3	16/3	1 0	2½ Jan. '94	1 0 0	45,000	Transvaal	110, Cannon-street
Un. Langlaagte ...	10/- 12/6	12/6	1 0	—	1 0 0	100,000	Witwatersrdt.	23, St. Swithin's-ln.
Van Ryn ...G	1 1/16 1⅛	21/3	1 0	—	1 0 0	99,810	Witwatersrdt.	1, Crosby-square.‡
Victory Hill ...G	—	—	1 0	—	1 0 0	108,000	De Kaap	Portland House, E.C.
Village Main Reef	4 4⅛	3¾	1 0	—	1 0 0	132,000	Witwatersrdt.	8, Old Jewry.
Wassau ...G	—	—	1 0	—	1 0 0	100,000	Gold Coast	147, Cannon-street.
Wemmer ...G	4 13/16 5 1/16	4¾	1 0	10% Nov. '91	1 0 0	55,000	Witwatersrdt.	19, Bury-street.‡†
Willoughby's ...	5⅛ 6⅛	6½	1 0	—	1 0 0	30,000	Mashonaland.	19, St. Swithin's-lane
Witwatersrandt ...	21/6 22/6	22/6	1 0	—	1 0 0	250,000	Witwatersrdt.	19, Bury-st., E.C.
Wolhuter ...G	2¼ 2⅞	2⅞	1 0	2/- Apr., '94	1 0 0	120,000	Witwatersrdt.	Warnford-court.†
Wolverand ...G	⅜ ⅜	⅜	1 0	—	1 0 0	18,750	Transvaal	5, Copthall-buildings
Wolverand ...G	—	—	1 0	—	0 18 0	39,021	Transvaal	5, Copthall buildings
Worcester ...G	2 11/16 2 13/16	2¾	1 0	20% Aug. '94	1 0 0	90,727	Witwatersrdt.	8, Old Jewry.‡
Zambesia Explora.	2⅛ 2⅝	3	1 0	—	1 0 0	45,000	Transvaal	13, George-st., E.C.

PROVINCIAL SHARE MARKETS.

THE CORNISH MINE SHARE MARKET.

MR. SAMUEL JOHN DAVEY, Dealer in Cornish Mine Shares, Redruth, Cornwall, reports under date of August 16 (4 o'clock) as follows:—We have had a much better market this week, and buyers of several mines at advanced prices To-day market is firm. Following are quotations:—Blue Hills, ⅛ to ⅜; Carn Brea, 8 to 8½; Cook's Kitchen, ½ to ¾; Dolcoath, 68 to 69; East Pool, 8 to 8½; Killifreth, £2 19s. to £3 1s.; Polberro, 1⅜ to 1⅝; South Condurrow, ⅝ to ¾; South Crofty, 1¼ to 1¾; South Wheal Frances, ½ to ¾; Tincroft, 11½ to 12; West Frances, 1½ to 1¾; West Kitty, 5½ to 6; Wheal Agar, 1½ to 2; Wheal Basset, 1½ to 2; Wheal Grenville, 17½ to 18½; Wheal Kitty (St. Agnes), ¾ to 1¼.

Mr. MICHAEL WILLIAMS BAWDEN, Mining and Assaying Offices, Liskeard, Cornwall, writes (August 16) as follows:—The mining market has shown a greater amount of activity than has been experienced for some time past on the further advance of tin and settlement of the Tariff Question, with a good demand for most shares at an advance; holders firm in view of better prices. Closing prices:—Botallack, 1 to 1½; Blue Hills, 7s. to 8s. 6d.; Carn Brea, 8 to 8½; Cook's Kitchen, ¾ to 1; Devon Consols, 1¼ to 1⅜; Dolcoath, 68½ to 69; East Pool, 7½ to 7¾; Killifreth, 58s. 6d. to 60s.; Levant, 6¼ to 6½; Phœnix United, ⅜ to ½; South Crofty, 1⅜ to 1½; South Frances, ⅝ to ¾; Tincroft, 11½ to 11¾; West Frances, 2 to 2¼; West Kitty, 5¼ to 5⅝; Wheal Agar, 1¾ to 2; Wheal Basset, 1¾ to 2; Wheal Grenville, 18 to 18½; Wheal Kitty, ½ to ⅝.

Messrs. ABBOTT AND WICKETT, Stock and Share Brokers, and Mining Share Dealers, Redruth, write under date of Thursday, August 16:—The market has been decidedly better this week, and nearly all shares show a considerable improvement, and it has not been an easy matter to execute orders. Quotations herewith (four o'clock):—Blue Hills, ⅜ to ⅝; Carn Brea, 8¼ to 8¾; Cook's Kitchen, ⅞ to 1; Dolcoath, 68 to 69; East Pool, 7¾ to 8¼; Killifreth, 59s. to 61s.; Polberro, 1¼ to 1½; South Condurrow, ⅝ to ⅞; South Crofty, 1½ to 1¾; South Frances, ½ to ¾; Tincroft, 11¾ to 12¼; West Frances, 1½ to 2; West Kitty, 5½ to 5¾; Wheal Agar, 1½ to 2; Wheal Basset, 1½ to 2; Wheal Grenville, 18¼ to 18¾; Wheal Kitty, ¾ to 1. Tin, £69½.

MANCHESTER.

Messrs. JOSEPH R. and W. BAINES, Stock and Share Brokers, Queen's Chambers, 7, Market-street, write August 16, 1894 (noon):—With some little ease about during the preparation for the settlement, Railway markets have shown improvement all along the line, and the rise has been especially prominent in Americans. The Tariff Bill, whilst not all its supporters deserved for it, has passed into a position of comparative security as to its principle, if, however, its several provisions may not yet be actually decided upon, but may still furnish subjects for adjustment by minor legislation. That the settlement, so far as it goes, is hailed with feeling of expectancy of better opportunities for general trade is very apparent, and on this expectancy prices have gone up considerably all round. Yesterday, on some natural realisations, prices fell away somewhat, and this movement was continued this morning, reflected again from a sympathetic movement on the other side, but it is thought that it is only a natural steadying down after the biggish rise, and that further development of the advance is likely to be seen very shortly. Home rails all better, the principal advances being as follows:—Great Eastern 1⅜, South Eastern A 1⅜, Great Western about 1 (reckoning them now ex dividend), Great Northern A 1, Brighton A ¾, and a lot of others higher in smaller fractions of 1. In Americans the percentage of rise is in some cases very smart, notably in Atchison Ordinary, which from about $4, have risen to $6½ to 6¾, whilst other advances are as follows, viz.—Atchison Incomes $2½, Central Pacific $1⅜, Milwaukees $2¼, Denver Ordinary, 1½ to 2, ditto Preference $4, Louisvilles $2½ to 3, New York Central $2½ to 3, Eries $⅞, Ontarios $⅜ to $½, Norfolk Preference $2¼, Readings $¼, Union Pacific $2½, and Ohio First Preference $1½. These changes are on balance after the little set back named above. In Canadians a similar buoyancy has been apparent, and likewise there has been some reaction from best points, as in Americans. Higher:—Pacifics $2; Trunk Guaranteed, 2; first pref., 1¾; second pref., 1¾; third pref, 1; and ordinary, ⅞. Mexicans have come in for some share in the advance, but it is only on the first pref. that the rise is of any moment, viz., 2¼, the second pref. and ordinary being only ½ and ¼ respectively higher. Consols have lost a little from their very high position, being marked 3-16 lower on the week. Colonials have come into fresh demand, with the following result:—Higher: Cape of Good Hope Inscribed, 1½; ditto Registered, ½; Canada Registered, 1; Natal Inscribed, 1; New South Wales and Queensland Inscribed, ½ each, there being no declines to set against the foregoing. Home Corporation Stocks, &c., keep good, only advances again being marked. The following are higher:—Birmingham 3½ per cent. 1. Southport 3½ per Cents. 1, Stockport 3 per Cents. 1, Douglas 3½ per Cent. ¾, Newcastle 3½ per Cents. ½, Manchester Three per Cents. ½, and ditto Four per Cents. ½. Foreigners provide one exception to the general rule of better prices, viz., Russian Fours, which are ⅛ lower. This exception is only notable from its isolated position, as the rest of the market are all better, some of the advances being very decided in amount.—Higher: Argentine Six per Cents. 4¾, ditto Five per Cents. 2½, Mexican Six per Cents. 3, Uruguay 3½ per Cents. 2, Brazilian Four per Cents. 1⅝, Spanish Four per Cents. 1⅛, Italian Rentes 1, Portuguese Three per Cents. ⅞, and Egypt Unified ½. The attention demanded by the Railway Markets also for the arrangement of the settlement has depleted business in the miscellaneous classes of shares, but a fair amount of notice has been paid to quotations herein, with generally a distinct gain or balance for most sections.

BANKS are slightly exceptional, as whilst there has been but little going on save for some repeated dealings in Consolidateds, changes in quotations (and here arises the exceptional position), prices showing decline are in a majority. Higher; Adelphi and Bank of Liverpool, ½ each. Lower: Imperial of Persia, ½; District and Union, ½ each; and Consolidated 1-16.

INSURANCE, with comparatively a fair number of dealings reported (though made up mostly of isolated markings) show advances nearly all down the list. Thames and Merseys are 3-16 to ¼ lower, but the following are higher, viz., Guardian, ½; Royal, ½; Liverpool and London and Globe, ½; London and Lancashire, ½; Manchester Fire, ½; Sea, 5-16; and Lancashire, ⅛ to 3-16.

COAL, IRON, &c.—A few lots of Bolckow issues have changed hands, but otherwise hardly anything doing. Changes in prices few and small.—Higher: Bolckows (£12 paid), ⅛; Rhymney, New, 1s. to 1s. 6d.—Lower: Dorman, Longs, ⅛; Tredegar A, ½.

COTTON SPINNING shares as dull as ever, and lower prices still marked where any change at all is marked. In the majority of cases prices are not tested by business, and here nominal quotations are by no means a guide to what could be obtained if business was pressed.

MINES.—Only Tintos moving here. They have been done repeatedly, and are put 1½ up. De Beers, too, are ⅝ higher. Mysores 1-16 lower.

TELEGRAPHS, &c.—Anglo issues and Easterns better, particularly the former. National Telephone Ordinary 1-16 to ⅛ better.

BREWERIES.—Tamplins ½, and Manchester 1-16 higher; Guinness' 8 and Allsopps 1 lower.

MISCELLANEOUS.—A fair number of changes in prices, of which the following are the most noteworthy—viz., Gas Light and Coke A, 3; Imperial Continental Gas, 2; United Alkali Ordinary, ⅛; ditto Preference, 9-16; Suez Canal, ½; and A. and S. Henry's, ⅜.—Lower: Spiers and Pond, ½; Liverpool Trams, &c., ½. Other changes small in amount. Ship Canals quiet with decline of 1-16 on Ordinary Preference remaining unchanged.

LATER (4 P.M.)—Home Rails show very few changes to-day. Americans to the fore again. Shortly after opening to-day (which was, as we have said, at somewhat lower prices), they came into favour and improvement set in again, which has been maintained down to the close of business. Canadians have moved somewhat similarly, but have not improved so fast as Americans. Trunk have a balance of £206 after payment of debenture interest. Mexicans better.

EDINBURGH.

Messrs. THOMAS MILLER and SONS, Stock and Share Brokers, 69, Hanover-street, Edinburgh, report as follows under date of August 16:—During the past week a large business has been done in Americans, and our leading Scottish Stocks have also received a share of attention. Caledonian Railway Deferred has receded from 44 7-16 to 44 3-16, North British from 39½ to 39¼, Glasgow and South Western has risen from 105½ to 106¼, London and Brighton Deferred from 156½ to 157⅜, Chatham from 16 to 16¼. In Banks, Clydesdale have improved from 19½ to 20, Royal from 232 to 232½, Town and County from 18½ to 18¾, Union from 22 to 22½. Insurance shares quiet. Liverpool, London and Globe have improved from 46⅛ to 46⅜, Northern from 63¾ to 63½, Royal from 49½ to 50, London and Lancashire from 16⅝ to 16¾. North British and Mercantile have declined from 36¾ to 36½. Edinburgh Investment Trust Preferred is 20s. lower at 85s. Marbella Iron Ore have risen from 50s. to 54s. 9d., Rio Tinto from 13½ to 14⅜, Tharsis from 88s. 3d. to 93s. African Gold Recovery have advanced from 23s. 6d. to 26s. 9d., De Beers from 14 7-16 to 15⅜. Broxburn Oil are 5s. higher at 8¼, Young's 6d. higher at 20s. Pumpherston 5s. lower at 5½. Distillers 2s. 6d. lower at 16. Highland Distilleries 1s. 3d. lower at 6¾. The following are the last prices per £ of Deposits of Reconstructed Australian Banks:—Australian Joint Stock, 16s.; Bank of Victoria, 15s. 3d.; City of Melbourne, 15s. 3d.; Commercial Bank of Australia, 13s. 9d.; London Bank of Australia, 16s. 9d.; National Bank of Australia 16s. 9d.; Queensland National Bank, 14s. 6d.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, Stockbroker and Ironbroker (August 16), writes:—Since last report (July 26), business has for the most time been quiet, owing to the holiday season, but the tendency of prices recently has been decidedly better, due to cheap money, the passing of the United States Tariff Bill, and recovery of animation in the metal markets.

In shares of coal, iron, and steel companies there has not been much business doing. The Fife Coal Company's dividend has been announced at 30 per cent., same as last year. Marbella declined to 46s., but since the passing of the United States Tariff Bill have recovered to 55s. This company's report for the first half of 1894, showed the output was 5062 tons, mainly obtained from their own mines. The difficulties of re-opening the old mines are being surmounted, and a fair output from them is expected. The accounts show a loss of £1808, but the prospects for the current half-year are good. Bolckow, Vaughan are at 10½, Ebbw Vale 7⅞, Niddrie 40s. 3d., Rhymney New 16s. 6d., Steel Company of Scotland 46s., Stewart and Clydesdale 8.

In shares of copper concerns a fair amount of business has been done. Tharsis at one time declined to 87s., and Tinto to 12 11-16, but in sympathy with the recovery in the market for the metal, these shares have respectively improved to 94s. 6d. and 14⅜. Arizona are at 7s., Copiapo 37s., and Mason 52s.

In shares of gold and silver mines business has been quiet. Montana have been sold from 14s. 6d. to 12s. 9d. Last months output was $72,800, and expenses $46,700. The returns from the various South African, Australian, and Indian mines for last month have been satisfactory, especially from Nundydroog. African Gold Recovery and Cassel shares have been flat, and touched 22s. 6d. and 12s. respectively, but are now better; the uncertain result of the lawsuit in regard to the patent in South Africa, of course, accounts for this depression. Very encouraging accounts are being received from the West Australian Gold Fields. Last month's dividend of Victoria C.T. was reduced to 3d. Nouveau Monde wanted. American Belle are at 2s. 6d.; British North Borneo, 75s. to 85s.; Broken Hill Proprietary, 58s.; Blue Spur, 1s. 9d.; British South Africa Chartered, 33s. 6d.; Caratal, 7½d.; Champion Reef, 77s.; Gold Fields of South Africa, 47s.; Gold Fields of Mysore, 22s. 9d.; Lisbon-Berlyn, 2s. 3d.; Louis d'Or (New), 4s. 6d.; Mysore, 48s.; Orita, 2s.; Piggs Peak, 2s. 9d.; Spitzkop, 5s. 3d.

In shares of miscellaneous companies prices are generally better. Dividends of 2½ per cent. are announced on the English Crown Spelter, and 10s. per share on Price's Candle, but the United Alkali Company is not paying any interim dividend. In oil companies, Broxburn are higher at 8½, but Pumpherston and Young's are lower at 5½ and 20s. respectively. The price of Scotch burning oil has been reduced ¼d. to 5d. per gallon. Nobel's Explosives are at 13⅞, Phospho Guano 75s., and White Lead 3s. 6d.

MINING IN CORNWALL AND DEVON:

NOTES ON WESTERN MINING, EDITORIAL AND OTHERWISE.

WE are glad to be able to record a very largely increased activity in the Cornish share market. During the last ten days there has been more interest centred on the mining exchange than at any time during the present year. The revival in the price of tin last week has put more heart into the Cornish speculator, and from about Thursday to Saturday all the loose stock which was hanging on the market had either been snapped up by speculators in anticipation of a rise in the metal or temporarily withdrawn by the holders, who expected with an upward market to be able to realise much higher prices. We have repeatedly said that those who wish to pick up stock for a rise should take the earliest opportunity, pointing out that when the turn did come the advances would be sudden and considerable, This has been amply proved by the advances which have taken place on a comparatively small upward movement in tin. For instance, while tin had up to Wednesday evening only advanced £4 2s. 6d. from the lowest point, Dolcoath shares had in the same time gone up £8, and were almost unprocurable even at the enhanced price. The activity in the market has also shown how very sensitive some of the other shares are. Carn Brea advanced £2, Tincrofts nearly the same amount, Cook's Kitchens more than doubled their value, and in almost every other case the prices showed a substantial improvement, That the turn so long delayed has actually come it would be premature to suggest, but the indications seem to favour the opinion which is held in Cornwall that the market has seen its worst, and that although a very large advance in price may not be seen immediately, things will not be so utterly dull and unprofitable as they have been during the greater part of the current year. It is a pretty open secret that some good orders have been placed in the hands of brokers, and the execution of these must, at the present low prices, have a very desirable effect.

WHEAL AGAR meeting has been held, and the loss proved to be rather more than was anticipated. A large proportion of the adverse balance is to be accounted for by the low price of mineral. Their arsenic sale was, however, a valuable addition, and under their new contract is likely to be still more so. The most important feature in the meeting was the announcement of the terms under which the development of the bottom of the mine is to be carried out by the Tuckingmill Foundry Company. This company is, we understand, desirous of giving a trial to some new air compressing and boring machinery, by which they hope to obtain very satisfactory results. They undertake to erect their engine house and engine to provide all the appliances, and will simply take a contract from the mine at the same rate as the work would be set to an ordinary pare of men. In the last four months in the ordinary working of the mine the shaft was sunk 4½ fathoms, but the company undertake to sink the shaft 4 fathoms a month—or nearly four times the present rate; and in the bottom end they will drive at the rate of 10 fathoms a month. There will be no doubt, therefore, as to the rapidity with which the bottom of the mine will be opened, and the committee are to be congratulated on the adoption of such a vigorous policy.

THE new tin stream works which are now in course of erection on the Carn Brea sett will shortly be completed. They are being laid out at considerable cost, and every new appliance for tin saving has been adopted. These works are being carried on under an arrangement with Carn Brea Mine, by which the adventurers will receive a percentage of the actual tin saved. It will be very interesting, therefore, to see what success they achieve, as it will give the adventurers some idea of the amount of tin which was being allowed to run to waste. We believe the question of tin dressing and the provision of better appliances will before long have to command the attention of mining committees. There is no doubt that a considerable quantity of tin is being allowed to run to waste, and the mining companies will have to make up their minds to lay out more money than they have hitherto done on their dressing floors.

SOUTH CONDURROW meeting was held on Wednesday, and a call of 2s. 6d, per share was necessary to meet the loss of just over £1000. They are working here with a definite object—that of proving the western part of their sett, particularly the junction of the engine and flat lodes. There is every prospect of the western section turning out equally as productive as the eastern part, from which over £100,000 was paid in dividends.

REPORTS FROM THE MINES.

We find it necessary to announce that, owing to the vast numbers of mine reports, and items of mining intelligence which reach us invariably very late—up to, and frequently after the time of going to press—it is impossible to guarantee the insertion of all of them in the issue in which, in ordinary course they should appear. We always endeavour, however, to make this important feature as complete as possible, and if the secretaries of mining companies, mining captains, and others would kindly make an effort to let their reports, etc., reach us early on Fridays, when it is not possible to let us have them earlier in the week, their doing so would go far to ensure their insertion, and to promote the completeness of our Mining Intelligence.

BRITISH MINES.

DEVON GREAT CONSOLS.—William Clemo, August 16: Watson's engine shaft. In the 172 fathom level east the lode is 4 feet wide, and will yield 1 ton copper and mundic ores per fathom. In the 160 fathom level east the lode is 3 feet wide, composed of capel, quartz, and a small quantity of mundic. In Harvey's winze below the 160 fathom level east the lode is 4 feet wide, yielding 6 tons of copper and mundic ores per fathom for length of winze 9 feet. In the 148 fathom level east there is a promising lode, yielding 4 tons of copper and mundic ores per fathom. All other points of working continue without alteration.

GREEN HURTH.—August 10: There is no change to note in any of our workings since my last report.—Annie's vein. The south forehead, also the heading in the back of the level, maintain their value for lead, worth 1½ and 2½ tons per fathom respectively.—South-west branch vein. The south forehead continues to produce lead worth 2½ tons per fathom; the vein is looking a little better in the level sole for lead.—West cross cut, south of Swan's shaft. We have not yet met with south-west branch; this we are looking forward to daily. Rain has fallen very heavily here during the week—W. Gray.

NEW MINERA.—Mining report for the two weeks ending August 10: 275 yard level near forebreast west, four men on tribute. Lode worth 2½ to 3 tons lead ore and blende per fathom, estimated to produce 9 tons per month. West of winze four men on tribute. Lode worth 2½ tons blende per fathom, estimated to produce 8 tons per month. West of pass three men on tribute. Lode worth 3 tons blende and lead ore per fathom, estimated to produce 7 tons per month, 295 yard level, west of winze, two men on tribute. Lode worth 3 tons blende per fathom, estimated to produce 5 tons per month. West of sump two men on tribute. Lode worth 2½ tons blende per fathom, estimated to produce 5 tons per month. 315 yard level driving east of main cross cut, four men. Lode of limestone, shale, and a little lead ore. West of incline shaft two men on tribute. Lode worth 2 tons blende per fathom, estimated to produce 4 tons per month. East of incline shaft two men on tribute. Lode worth 2½ tons blende per fathom, estimated to produce 4 tons per month. Near forebreast west four men on tribute. Lode worth 2½ tons blende per fathom, estimated to produce 8 tons per month. West of winze, two men on tribute. Lode worth 2½ tons blende per fathom, estimated to produce 4 tons per month.—Dressing. 32 tons blende have been sent off since last report, making the total quantity sold 4274 blende and 1720 tons lead ore.

PHŒNIX AND WEST PHŒNIX UNITED.—Setting report: August 14: Eastern mine. At Seccombe's shaft we are still forking the water below the 186 fathom level, which is proceeding satisfactorily, the water being now down about 8 fathoms below this level. We have from 6 to 7 fathoms more to fork before we can redeem the 200 plunger lift. In this part of the mine we have 20 pitches worked by 68 men and boys.—Western mine. The 100 fathom level is being driven west by boring machinery, which is making excellent progress. Although the lode during the last month has not been so productive as anticipated, yet we are pleased to say that it is again showing signs that we are near another run of tin ground. The lode in this end is now worth £8 per fathom. The 70 is being driven west by two men, where the lode is worth £7 per fathom. The 40 is being driven west by four men, lode worth £8 per fathom. The lode in the rise in the back of the adit is worth £7 per fathom. In the midway level above adit, driving east of rise, the lode is worth £10 per fathom. The lode in the rise in the back of this level is worth £12 per fathom. We have five stopes in this part of the mine worked by 26 men, lode worth from £3 to £12 per fathom.—John Williams, John Rundle, William Manley, James Hoskin.

POLBERRO.—August 13; The engine shaft is sunk 8 fathoms below the 14. We have risen 4 fathoms above the 20, and 8 fathoms above the 26 on the line of the shaft, thus making 20 fathoms completed in all. We have about 10 fathoms more to sink and rise, and have 28 men employed at present on this work. The lode in the 26 east on Pink lode is 3 feet 6 inches wide, and produces 17 lbs. tin to the ton. There is no change in the 26 west on Pink lode. On the South House lode the 26 east of crosscut is 6 feet wide, and yields 40 lbs. tin per ton. The lode in the western end is 5 feet wide, and yields 30 lbs. tin per ton.—(Signed) Charles Thomas, John Harper.

PRINCE OF WALES.—S. Roberts, August 15: The crosscut at the 193 fathom is now extended 32 fathoms north of the engine shaft. There is no material change either in ground or indications since last reported. The nature and character being the same, which is composed of very hard killas and capel of a very promising nature, and letting out water.

WEARDALE.—Report for week ending August 11, on Weardale Company's Mines: Groverake. Loop level to take water from Rake level. No ore to save, sparry vein. Adamson's drift west worth 16 cwts. per fathom; men not at work. Cubic fathom stopes worth 14, 14, 12, 14, 12, 14. 14, 14, and 12 cwts. per fathom. Tribute ore raised for week 25 bings.—Boltsburn. Stope above Watt's level in vein worth 12 cwts. per fathom. Stope in north flatt worth 14 cwts. per fathom. Stopes in south flatt worth 20, 36, 16, 40, 30, 16, 16, 20, 16 and 20 cwts. per fathom.—Greenlaws Stopes in Nattrass Gill drift worth 14, 15 and 18 cwts. per fathom. Stope in Lees sump worth 20 cwts. per fathom. Tribute ore raised for week, 20 bings.—Sedling. 64 fathoms level east, vein 3½ feet wide, worth 8 cwts. per fathom. Stopes above 64 level east, worth 16, 18, 14, and 16 cwts. per fathom. Stope above 64 level west, worth 16 cwts. per fathom. Cross cut north in scar lime from 74 level to prove ground, now in 1 1-6 fathoms, a hard poor lead has just been cut, but the one for which the cross cut was started has not yet been reached.—South vein, Stobbs' drift. Stope worth 12 cwts. per fathom. Ore raised for week, 42 tons; ore dressed for week, 61 tons; ore and slag smelted for week, 133 tons, producing 70 tons of pig lead.

COLONIAL, INDIAN, AND FOREIGN MINES.

CHIAPAS.—Mine report for fortnight ending July 15.—Providencia Aver. We have had a decided improvement, and the level is looking in the end very encouraging. Driven 22 feet, total 70 feet. Assays, 3 dwts. 22 grains gold, 5 ounces 3 dwts. 21 grains silver, 1·18 per cent. copper; 3 dwts. gold, 8 ounces 9 dwts. silver, 2·31 per cent. copper; 8 dwts. 12 grains gold, 3 ounces 12 dwts. 12 grains silver, 1·83 per cent. copper; 9 dwts. gold, 5 ounces 2 dwts. silver, 2·13 per cent. copper; 12 dwts. 12 grains gold, 7 ounces 1 dwt. 12 grains silver, 3·02 per cent. copper.—Providencia, No. 2, S Hill prospecting drift. We have commenced about 95 feet below No. 1 prospecting drift to drive a cross cut to search for continuation of Providencia deposit. Driven 10 feet.—Santa Fé drift. Driven 5½ feet, total 97½ feet. Continues regular. Assays, 14 dwts. gold, 7 ounces 7 dwts. silver, 4·52 per cent. copper; and 10 dwts. gold, 6 ounces 12 dwts. silver.—Santa Fé stope, Assays, 6 dwts. gold, 7 ounces 6 dwts. silver, 3·26 per cent. copper; and 6 dwts. gold, 5 ounces 1 dwt. 12 grains silver. Fallen somewhat in value.—Santa Fé winze. Sunk 6½ feet, total 62½ feet. No change.—Sylva cross cut, No. 3 winze. Finished cutting pump station and placed new pump in position. Taylor No. 1 north driven 7 feet, total 71 feet. We recommenced to drive here a few feet, as on surface we have a rock showing gold, and which we ought to cut shortly in this level if it makes below, and where possibly it may have improved in quality. In the face we have pyritous stuff, and showing gold when burnt in small quantities.—Ore extracted: Providencia Aver 43 tons, Santa Fe drift 18 tons, Santa Fe stope 345 tons, Taylor No. 3 stope 135 tons, Taylor No. 2 stope 113 tons, Old Providencia 377 tons. Taylor No. 3 stope assays 13 dwts, 12 grains gold, 11 ounces 13 dwts, 12 grains silver, 5·99 per cent. copper, and 14 dwts. gold., 9 ounces 18 dwts. silver. Old Providencia has been turning out very good stone, assays 1 ounce 4 dwts. gold, 11 ounces 4 dwts. silver, 6·32 per cent. copper and 1 ounce 11 dwts. gold, 11 ounces 4 dwts. silver. Taylor No. 2 as we rise shows improvement, assays 9 dwts. gold, 7 ounces 16 dwts. silver, 4·14 per cent. copper and 9 dwts. gold, 7 ounces 6 dwts. silver.

JAY HAWK AND LONE PINE CONSOLIDATED.—James Prideaux, July 25: I beg to hand you the following report:—The 1600 feet level is being driven towards the lode. We are now in about 35 feet, and are expecting to cut the lode daily. The lode at the 1500 feet level is not so large; it is now about 2 feet wide, of good ore, and may open out again any time. We are stoping above the 1500 feet level in a good body of ore. The winze sinking below the 1500 feet level is now down 40 feet, and has been in good ore all the way. This is encouraging for a good lode at the 1600. We have commenced stoping in the 1300 feet level west of shaft. We are now stoping down with the lode, which seems like opening out well. The ore here is very good. We are preparing to drive the 1400 west level to cut the lode, and should it continue down to the 1400 we shall have a good body of ore to stope away, and practically a new lode, as no work of importance has been done on this side of the shaft below the 1200. The ground between the 1200 and 1500 feet levels in the shaft is very soft, and surface water is percolating down, owing to the late heavy rains, &c. This has made it necessary for us to put double timbers in the shaft between these levels. This work is well forward, but has delayed for the time the sinking of the shaft below the 1600. The other stopes are looking the same as last reported.—Bonanza. The stopes above the 100 feet level are looking well, and yielding good ore. They are opening up better than we expected. We are stoping in a large body of ore, and are sending 12 to 15 tons to the mill daily, The ventilation throughout the mine is now perfect.

KAPANGA.—W. H. Argall, July 4: Report for four weeks ending 30th ulto. Larnach's engine shaft has been sunk by 12 men during the month 27 feet, total depth 714 feet. During sinking several small veins were intersected varying in width from 3 to 7 inches, bearing east and west dipping at an angle of 200 from the horizon. The veins are composed of quartz, calcide, and clay, and are highly mineralised. The country rock is harder than usual, and in places heavily charged with iron pyrites. Three men were engaged in sinking a winze below the 300 feet level on Scotty's footwall branch, and also driving south from bottom of winze, but we were obliged to suspend the same owing to water. The pitwork and machinery are working fairly well.—Coromandel section. The tributers working here are not doing quite as well.—No. 2 block. Two men have been engaged in driving an intermediate crosscut and intersected Meredith's reef south of the slide. The reef is small at this point, being only about 2 inches wide. It is, however, producing good general dirt, and a few pounds of specimens have just been encountered.—No. 7 block. Two men have driven south of main crosscut on the new reef 14 feet. It is 4 feet wide, but contains only low grade ore, and can be valued at about 1 ounce of gold to the ton.—No. 15 block. Three men were engaged in driving on the new reef north of the main crosscut; 20 feet was driven on same, which is 10 inches wide. The value at present per ton can still be estimated at 10 ounces of gold. The reef, although narrowed considerably, is well defined, and gold can be seen in the bottom of the drive, showing that it goes down.

MONTANA.—The following is a summary of the latest information received from the mine respecting the most important developments of the past three months:—New Castletown lode. The development of this lode in the levels above the 800 feet level has been prosecuted in an energetic manner, upwards of 1000 lineal feet of drifts, winzes, and upraises having been driven from the 1st of May to the 30th of June. In No. 3 level south, the new orebody referred to by Mr. Bayliss in his remarks at the last general meeting, which at that date had been developed for a length of 45 feet, has been proved by drifting to extend 107 feet further in a southerly direction; the pay ore contained therein, stated to be of fair grade, which may be taken at from $15 to $20 per ton, adds a considerable tonnage to the ore reserve in this stope. The north drift in this level has not encountered any pay ore, the objective point not having yet been reached. In the 500 feet level the south drift is being driven with the object of proving the continuation of the south orebody encountered in the No. 3 level, but it has not yet been advanced a sufficient distance to undercut the orebody. In the progress of this drift, some high grade ore has been encountered, which favours the continued development of the New Castletown lode in the levels below. In the 600 feet level the ore body already developed has been proved to extend a further distance of 46 feet, and the southern extremity of the ore body is not yet determined. This ore body is now of greater length than any developed in the levels above, and, in size and value, compares most favourably with the ore body in the 500 feet level, which is of higher grade value than other stope in the New Castletown vein. In the 700 feet level a cross cut has been advanced from the Drumlummon lode for the purpose of intersecting the New Castletown lode. This object has not yet been attained, but, in the course of the cross cut, a vein or branch has been met with, and drifted upon for a distance of 20 feet, which Mr. Burrell describes as being "4 feet wide in the south end, and of good milling value, and 4 feet wide in the north end, showing high grade ore, which still continues." Sufficient development work has not yet been carried out upon this vein to justify any decided opinion regarding its permanence, but its occurrence furnishes great encouragement for further exploration. In the 800 feet level no work has been prosecuted since the latter part of May, as convenience in working and ventilation requires a connection with the 700 feet level before further work in the 800 feet level can be systematically carried out. The completion of No. 1 shaft will now permit the exploration of the New Castletown vein in depth as soon as it is deemed expedient to search for it in the lower levels; but as the supply of ore available for the mills from this and other portions of the mine is ample for all requirements for some time to come, and as the management desires to gain a clearer understanding of the New Castletown lode in the upper levels, it is thought better to defer opening up the New Castletown vein in depth until some further work has been accomplished in the levels above.—No. 1 shaft. This shaft has now been completely repaired, and the mine unwatered to the bottom, or 1600 feet level. The drifts north and south in the 1600 feet level are found to be caved in, and three or four weeks will probably be required to put this level in condition for active development. In addition to exploration at this depth, it has been decided to sink a deep exploratory winze or small shaft upon and following the dip of the vein below the 1600 feet level, and to develop the Drumlummon lode at a considerable depth through this opening. By this means such development work can be more expeditiously and economically accomplished than by sinking the No. 1 shaft to this contemplated depth.—The Old Castletown Lode. During the past two months a new and important discovery has been made in the north drift of the Old Castletown lode in the 500 feet level, in which a new orebody has been encountered, at present 41 feet long by 12 feet wide, and of a good average grade. This discovery having been made in the hitherto unexplored ground, there is good reason to expect that the continuation of this orebody will be found in the level below.—The Drumlummon lode. The north drift in the 700 feet level has entered the Pixley No. 4 ore body for a distance of 53 feet; this ore body is about 12 feet wide, and of good average grade. The developments upon the North Star, west of the Drumlummon, and in the Nine Hour lode, continue to be of a very satisfactory character, and, generally, it may be stated that the results accomplished during the past three months have fully equalled the anticipations of the management. Mr. R. T. Bayliss will leave Liverpool for Marysville on the 22nd instant, and, after a careful examination of the underground works, will furnish a report for the shareholders, expressing his views upon the present appearance of the underground working, and the future prospects of the mine.

AUSTRALIAN BROKEN HILL CONSOLS.—The mining manager reports by mail for the fortnight ended July 5. Block 96. 280 level east, prospecting drive, No. 4 rise, stopes driven 33 feet, stoping on rich vein continued; yielding native and horne silver, chloride and iodide of silver, but not in such quantity and compact form as of late. The western and downward faces are not looking so well, although promising; but an improvement has taken place upwards; here the lode pinched almost out, but has opened out again showing native silver and iodide of silver. Ore raised 2 tons 9 cwts. 3 qrs. 2¾ lbs., containing 813 ounces.—280 Level West. Stopes driven 12 feet. Lode formation widening, carrying two veins of iron, showing a little galena. Incline sunk 4 feet, total 564 feet 6 inches. No change. Fahlerz has been met with in calcite and carbonate of iron. No. 4 level east off incline driven 5 feet, total 233 feet. The lode here is small and losing its characteristic features; this level has evidently reached the eastern extremity of the ore shoot. No. 1 rise off No. 4 level east of incline, driven 9 feet, total 40 feet. The lode has narrowed, yielding a little galena and fahlerz.—Note. The rock mined during the fortnight was 2547 cubic feet. We have constructed and erected a small engine to drive vanner, by which means we are enabled to thoroughly ventilate the 280 level east workings

AFRIKANDER.—The Chairman has just received from Mr. Mitchell the following letter:—Afrikander Mine, July 16: I have succeeded in turning out sufficient gold to pay off all outstandings, and I think we have now entered on a dividend-paying basis. The returns from July 1 to 15 are as follows;—Milled 528 tons, yield 5·6 dwts., producing 147 ounces 15 dwts. at £3 10s., £517 2s. 6d.; cyanide 672 tons, yield 5·3 dwts. of £3 10s. gold, 229 ounces at £2 15s., £629 15s.; extraction, 10·9; £1146 17s. 6d. I consider these returns very satisfactory. The cyanide was cleaned up after a fortnight as I was anxious to know the result, because our assays were high. The cleaning up has corroborated the assays. Roughly the expenses are:—Mining and milling, 528 tons at 20s., £528; cyanide, including royalty, 672 tons at 7s., £235; £763. These are rough figures, to show you that there is a margin for profit. We shall clean up the cyanide again at the end of the month, after which it will be cleaned up monthly. I hope to have a satisfactory balance sheet to send you at the end of the month. I have had great difficulty in getting labour. Up to the present we have only had two miners, now I am starting two more.—(Signed) James Mitchell.—The cabled returns for July are;—1000 tons milled, 281 ounces; 1300 tons cyanided, 357 ounces; total 638 ounces.

BALAGHAT MYSORE.—Captain Joseph Pryor, July 24: Ogle's shaft. This shaft is now down 31 feet 9 inches below the 800 feet level. The quartz has improved both in size and quality, being now about 9 inches wide, and of an average assay value of 2 ounces 12 dwts. 2 grains of gold per ton. During the past fortnight both the pit and timbermen have been busily engaged in the shaft fixing a plunger lift at the 800 feet level; this has naturally interfered with the progress of deepening the shaft. We, however, hope very shortly to get this new lift at work, when the sinking will undoubtedly go forward with much greater speed. I am pleased to say we have resumed the driving of the 800 feet level south, and extended the same 3 feet, or 13 feet 3 inches from the shaft. The lode presents a promising appearance, and will, I think, ere long considerably improve. The 800 feet north has been driven 10 feet, or 185 feet 6 inches from the shaft. The quartz is 15 inches wide, and assays 1 ounce 6 dwts. 2 grains of gold per ton. We have to-day started at 160 feet from the shaft another or No. 2 winze in the bottom of this level. The quartz is over 1 foot wide, and assays about 1½ ounce to the ton. The No. 1 winze has been sunk 10 feet, or 52 feet 6 inches below the level. The quartz is 1 foot wide, and assays 3 ounces 18 dwts. 5 grains. The stopes in the back of this level produce quartz of from 12 to 14 inches wide, and assay on an average 3 ounces 5 dwts. 4 grains. The stopes in the bottom of the 730 feet level yield quartz of from 9 to 14 inches wide, and assay on an average 1 ounce 10 dwts. 14 grains. The stope in the back of this level produces quartz of from 9 to 12 inches wide, and assays on an average 19 dwts. 7 grains. The stopes in the back of the 660 feet level yield quartz of from 6 to 9 inches wide, and assays on an average 9 dwts. 2 grains of gold per ton.—Haine's shaft. I am glad to say not only has the new Cameron pump arrived from England, but it has been fixed at the 800 feet level, and is now working most satisfactorily. I am hoping we shall now be easily able to cope with the water at this part of the mines, as well as push on with the sinking of the shaft and the extension of the bottom levels with a satisfactory rate of progress. The water is all in fork and the men are now engaged clearing up the bottom of the shaft, which is down about 3 feet below the 870 feet level. The quartz is from 1 foot to 1 foot 6 inches wide, and assays 7 dwts. 10 grains. We are also engaged cutting the necessary ground for the tip plat at this level. When completed and the timbers, &c., fixed the sinking and the driving of the levels will proceed much more rapidly. The 870 feet level south is now 10 feet 9 inches from the shaft. The quartz is over 1 foot wide and assays 5 dwts. 2 grains. The 870 feet level north is now 14 feet 9 inches from the shaft. The quartz is 2 feet 6 inches wide, and assays 7 dwts. 10 grains. The 800 feet level south has been advanced 27 feet 3 inches, or 305 feet 3 inches from the shaft. The quartz varies from 2 feet to 9 inches wide, and assays 15 dwts. 7 grains. We have about 25 feet further to drive to communicate with the level north of Ogle's, and hope to effect the communication at an early date. The No. 1 winze in the bottom of this level has been sunk 8 feet 3 inches, or 50 feet 9 inches below the level. The quartz varies from 6 inches to 1 foot wide, and assays 6 dwts. 7 grains. The No. 2 winze has been sunk 5 feet 6 inches, or 11 feet below the level. The quartz is 1 foot 6 inches wide, and assays 10 dwts. 4 grains. The level in the western branch has been driven 4 feet. The quartz is from 6 to 9 inches wide, and assays 5 dwts. 2 grains. The stopes in the back of the main level produce quartz of from 9 to 15 inches wide, and assay on an average 8 dwts. 12 grains. A stope in the back of the 800 feet level north yields quartz of about 15 inches wide, and assays 7 dwts. 10 grains. The level driving north from the bottom of the midway winze at the 730 feet level has been advanced 3 feet or 13 feet 6 inches. The quartz is about 6 inches wide and assays 10 dwts. 4 grains. The stopes in the back of the 730 feet level south yield quartz of from 6 inches to 1 foot wide, and assay 1 ounce 3 dwts. 4 grains.—Tennant's shaft. This shaft has not only been sunk to a depth of 3 feet below the 420 feet level, but we have also commenced cutting the necessary ground eastward for plat as well as driven the 420 feet level 9 feet north, and 8 feet 6 inches south of the shaft. The lode in these places is at present unproductive. Not being altogether satisfied but what a part of the lode may have gone off in the hanging or eastern side, we are driving a crosscut to prove the ground in this direction. This crosscut is now 10 feet from the shaft, but as yet we have not intersected anything of value. We purpose advancing it a few feet further, when, failing to meet with anything of importance, we shall again turn our attention to the rapid extension of the 420 feet levels north and south of the shaft, particularly the former, where, judging from the quartz now being passed through in the winze in the level above, we expect to ere long meet with a very decided improvement. The 350 feet level north has been driven 12 feet, or 133 feet 6 inches from the shaft. The ground has recently been very hard for driving, and consequently the lode is not so productive. It now yields a little quartz, and presents a promising appearance of soon further improving. The winze in the bottom of this level has been sunk 4 feet 3 inches or 16 feet below the level. The quartz is 2 feet 6 inches wide, and assays 11 dwts. 7 grains. The rise in the back of this level has been advanced 10 feet, or 36 feet 9 inches above the level. The quartz is 1 foot 6 inches wide, and assays 7 dwts. 10 grains. The 350 feet level south has been extended 20 feet, or 158 feet 9 inches from the shaft. The ground continues of a more favourable character, but as yet the lode only yields a little quartz. The winze in the bottom of this level has only been sunk 2 feet 3 inches, or 17 feet 9 inches below the level. The quartz here has recently improved, and is now fully 15 inches wide, and assays 9 dwts. 2 grains.—Surface. The masons are making fairly satisfactory progress with the loadings, &c., for the balance bob and will soon complete them. We shall then proceed with the erecting of the bob. The erection of the pumping engine is now in a fairly forward state, and can, if urgently required, be completed at an early date. As yet we have but very little water in this part of the property, consequently have not hitherto needed to force the erection of the pumping machinery. We have, however, been steadily going on with this work so as to be prepared to cope with any extra water that may at any time be met with.

BRITISH BROKEN HILL PROPRIETARY.—Extracts from the mine manager's report for three days ending July 4 (the company's financial year ending June 30): Blackwood, No. 1 shaft, 200 feet level: We now have two men working in the uprise over the north drive off east crosscut, following the ore chute.—400 feet level. The north drive off west crosscut at a point 185 feet in from shaft has been lengthened 2 feet, making its total length 21 feet. The south drive immediately opposite the north drive has been driven 4 feet, total length 28 feet. Howell No. 2 shaft has been sunk 2 feet, total depth 86 feet below 200 feet level. The east crosscut off end of south drive on 10th floor, far north stopes, has been extended 6 feet, total length 20 feet.—Retallick shaft, 115 feet level. The winze going down in extreme end of No. 3 west crosscut has been sunk 2 feet, total depth 66 feet below this level. In all the above mullock carrying patches of sulphide is met with.—July 9: Marsh (No. 6) shaft, second level. The north drive off east crosscut has been driven 3 feet, total length 52 feet. We have stopped work at this point for the present to enable us to crosscut west for connection with the main south drive. The south-west drive near junction boundary has been driven 5 feet, total length 74 feet. We are now stoping both north and south from No. 2 west crosscut, also north and south off No. 3 west crosscut in sulphide ore assaying 23 per cent. lead and 9 ounces of silver per ton.—Stopes, No. 2 west crosscut, north stope. The average of ore broken here during the three days — viz., 2 tons of second class ore averaged 18 per cent. lead and 22 ounces silver per ton.—South stope. We are following a chute of ore here, which is now up about 8 or 10 feet above the sill floor, and we have followed it now for a distance of 35 or 40 feet, and it is still opening up in size and maintaining its quality for silver; the face to-day is about 6 feet high, being entirely in ore, with ore showing on both sides also, which is very rich. We have broken during the three days from this stope 12 tons of first-class ore, assaying (face samples) 32 per cent. lead and 141 ounces silver per ton, also 1½ tons second-class ore, assaying 18 per cent. lead and 30 ounces silver to the ton.—No. 3 west crosscut. We broke from these stopes during the three days 6 tons of second-class ore, assaying 17 per cent. lead and 29 ounces silver per ton, and 1 ton first-class ore, assaying 14 per cent. lead and 63 ounces silver per ton. The assays for the three days of samples vary from 11·4 to 240 ounces of silver per ton.

BRILLIANT BLOCK.—Mine manager's report for fortnight ending June 27; Underlie shaft deepened 10 feet; present bottom 112 feet from No. 5 plat. The reef is about 4 feet thick of medium quality. No. 5 level west extended 20 feet, total from shaft 214 feet. Water is issuing from present end, indicating a change for the better. No. 5 level east extended 30 feet, total from shaft 257 feet. Reef in the face is 3 feet thick of medium quality. The four stopes over this level carry a reef from a few inches to 6 feet thick of fair looking stone.—No. 4 level west. Stoping over this level on 2 feet of stone of low quality.—No. 4 level east. Hanging wall drive extended 24 feet, and holed into footwall drive near the eastern boundary, showing reef 2 feet thick of medium quality. Total length 156 feet. Stopes carry a reef varying from 6 inches to 2 feet thick of medium quality.—No. 3 level east. No. 2 winze deepened 22 feet, total depth from level 41 feet, carrying a reef all the way down. Stone raised during fortnight 800 tons. Stone crushed during fortnight 728 tons, for a yield of 661 ounces 19 dwts. of gold.

CRAVEN'S CALEDONIA.—The following fortnightly report has been received from the mine, dated Charters Towers, June 21: No. 9 level has been extended a further distance of 7 feet, making a total of 252 feet from slide. The reef is pinched a little at present, but it has the appearance of making again. In the stopes over the level the reef will average fully 10 inches throughout. The winze going down from No. 9 level has been sunk an additional 12 feet, making a depth of 122 feet from the level. The reef is about 10 inches thick in the bottom of this winze. In the underhand stope from the level the reef is about the same. No. 8 level has been extended a further distance of 7 feet, making a total distance of 334 feet from the slide. The reef in the face is improving a little. In the first three stopes over this level the reef will average about 9 inches, and in the next four stopes about 7 inches. There are about 5 inches of stone in the stopes over No. 7 level. No. 6 level has been extended a further distance of 4 feet, making a total of 367 feet from the slide, and the reef remains about the same. In the two stopes over this level there are about 6 inches of very nice looking stone. In No. 4 level there are still two men in each shift stoping in front of the crosscut on a reef varying from 1 foot to 13 inches of very fair looking stone. The haulage of quartz for the fortnight is 123 tons, making a total of 626 tons for the present crushing. At the Victoria and Queen shaft the eastern drive has been extended a further 6 feet, making a total of 18 feet from the boundary peg. I have only two men in this level, one in each shift, and the reef is about the same. In the stopes over the level there are about 8 inches of stone. The footwall which we are taking up in the first pass is completed, and the truck road laid right into the face. I have raised from these workings about 8 tons for the fortnight, making a total of about 11 tons.—(Signed) G. Cabassi.

CHIAPAS.—Mine report for fortnight ending 30th June: Providencia Aver advanced 22½ feet, total 48 feet. Assays 8 dwts. gold, 5 ounces 17 dwts. silver, and 0·96 per cent. copper, also 3 dwts. 12 grains gold, 5 ounces 17½ dwts. silver, and 1·33 per cent. copper. A small bunch of gray copper ore, assaying 13 dwts. 1·6 grains gold, 43 ounces 17 dwts. 10·24 grains silver, and 25·09 per cent. of copper was met with, but has given out in the face again, while bornite in small specs is showing in the face, and though of no value as yet, is a very encouraging sign, and we shall push forward the drift more into the body of the hill as fast as possible.—Providencia south hill drift No. 1. In the crosscut we sunk 3 feet to prove the character of the stone we had cut in this drift more clearly: finding it even stronger in the bottom, we decided to commence and run in another drift some 100 feet below this, and which has been already started. Old Providencia continues to look very well, and mainly from here 56 sacks of hand sorted ore were sent home last month. Assays 12 dwts. 3 grains gold, 13 ounces 2½ dwts. silver, and 6·55 per cent. copper, also 12 dwts. gold, 9 ounces 6 dwts. silver, and 5·12 per cent. copper. Gold somewhat lower, but ore body somewhat greater in width, running from 10 to 12 feet. Extracted 358 tons of ore, looking well. Santa Fe winze sunk 9 feet 11 inches, total 55¾ feet, and finished cutting pump station begun in March last. Sylva crosscut advanced 10 feet, total 26½ feet. No change. Santa Fe drift advanced 6 feet, total 92 feet. Assays 14 dwts. gold, 8 ounces, 19 dwts. silver, 5·15 per cent. copper. Produced 20 tons.—Taylor No. 3 stope. Extracted 246 tons. Assays 15½ dwts. gold, 7 ounces 14¼ dwts. silver, and 6·91 per cent. copper, also 19½ dwts. gold, 8 ounces 4½ dwts. silver, and 5·22 per cent. copper.—Taylor No. 2 stope: Extracted 66 tons. Assays 7½ dwts. gold, 5 ounces, 12½ dwts. silver, and 2·66 per cent. copper, also 8 dwts. gold, 5 ounces 2 dwts. silver, and 2·49 per cent. copper. Improved in quality.—Santa Fe stope. Extracted 365 tons. Ore poor. Assays 8½ dwts gold, 5 ounces 15 dwts. silver, and 2·9 per cent. of copper, also 7 dwts. gold, 5 ounces 14 dwts. silver, and 3·27 per cent. copper.

CHAMPION REEF.—Fortnightly report of Captain James Rowe, superintendent, dated July 16: Garland's shaft. This has been sunk 14 feet, total depth 726 feet. We met with what we considered to be the footwall part of the lode at a depth of 720 feet, but on going through this for about 2 feet wide we met with a limb of the dyke dropping in from the west, which completely cut off the lode, consequently the shaft is again in the dyke. When we reach the 730 we shall drive a cross cut west through this, and have every belief that the main part of the lode will be met with in a few feet driving. The 630 feet level north of cross cut, west of shaft, has been driven 23 feet 3 inches, total length 75 feet 6 inches. Lode 3 feet wide, assaying 1 ounce 13 dwts. 14 grains of gold per ton. New rise in back of level (60 feet north of cross cut) risen 16 feet 6 inches. Lode 5 feet wide, assaying 2 ounces 8 dwts. 3 grains of gold per ton. 630 south of crosscut driven 12 feet 6 inches. This is communicated with winze sunk below 530 south of west crosscut and opened up a good section of stoping ground. This end having reached the dyke is suspended. New winze below level (8 feet south of crosscut) has been sunk 12 feet 6 inches. Lode 2 feet wide, assaying 16 dwts. of gold per ton. 530 feet level north of west crosscut driven 30 feet, total length 549 feet 9 inches. Lode 2½ feet wide, assaying 1 ounce 15 dwts. 8 grains of gold per ton. No. 4 rise in back of level risen 19 feet, total height 47 feet 3 inches. Lode 4½ feet wide, assaying 1 ounce 18 dwts. 14 grains of gold per ton. The 440 feet level north of west crosscut driven 20 feet 6 inches, total length 476 feet 6 inches. Lode 6 feet wide, assaying 1 ounce 16 dwts. of gold per ton. No. 2 rise in back of level risen 4 feet 9 inches, total height 93 feet 9 inches. This is holed to the 340 north. No. 3 new rise in back of level (100 feet north of No. 2 rise) risen 13 feet 6 inches. Lode 3½ feet wide, assaying 2 ounces 2 dwts. 7 grains of gold per ton. The 340 feet level south of No. 2 west cross cut, north of Garland's has been driven 26 feet 6 inches, total length 71 feet 6 inches. Lode 3 feet wide, assaying 19 dwts. 10 grains of gold per ton. No. 3 rise in back of 340 north of No. 1 west cross cut risen 22 feet 6 inches, total height 68 feet. Lode 4 feet wide, assaying 1 ounce 13 dwts. 12 grains of gold per ton. No. 2 or incline winze below level sunk 5 feet 3 inches, total depth 106 feet. Lode 3½ feet wide, assaying 2 ounces 8 dwts. 8 grains of gold per ton. Incline winze below 240 north of west cross cut north of Garland's has been sunk 14 feet 6 inches, total depth 44 feet 6 inches. Lode 3 feet wide, assaying 1 ounce 16 dwts. 5 grains of gold per ton.—Ribblesdale's shaft. This has been sunk 11 feet, total depth 557 feet 6 inches. Lode very small, about 3 inches wide, assaying 2 ounces 8 dwts. of gold per ton. The 540 feet level north of shaft driven 25 feet 6 inches, total length 47 feet 9 inches. Lode 6 inches wide, assaying 15 dwts. of gold per ton. 440 feet level south of shaft driven 26 feet 6 inches, total length 353 feet. Lode small and unproductive. 440 feet level south of crosscut driven west of 440 north of winze sunk below 340 north on south part of fold has been driven 36 feet, total length 45 feet 3 inches. Lode 1½ feet wide, assaying 1 ounce 12 dwts. 10 grains of gold per ton. 340 feet level south of shaft driven 19 feet, total length 694 feet 9 inches. Lode very small, and without value. Rise in back of level risen 12 feet 9 inches, total height 88 feet 6 inches. Lode 6 inches wide, assaying 1 ounce 8 dwts. 4 grains of gold per ton.—Carmichael's shaft. The 315 cross cut west of shaft has been driven 12 feet, total length 388 feet 9 inches. The 315 north of cross cut on lode recently discovered has been driven 10 feet 6 inches. At this distance the lode got very small, and end is suspended. We are now pushing the cross cut farther west.—Rowe's shaft. This has been sunk 10 feet, total depth below the 315 feet level 51 feet 3 inches. Lode 2 feet wide, assaying 3 ounces 4 dwts. 20 grains of gold per ton. 315 feet level north of shaft driven 23 feet 6 inches, total length 125 feet. Lode 1 foot 3 inches wide, assaying 1 ounce 17 dwts. 14 grains of gold per ton. Rise in back of 315, south of shaft risen 10 feet 9 inches, total height 65 feet 6 inches. Lode 4½ feet wide, assaying 1 ounce 12 dwts. of gold per ton. Winze below level sunk 11 feet, total depth 21 feet 3 inches. Lode 2½ feet wide, assaying 1 ounce 7 dwts. 5 grains of gold per ton.—Stopes. Dalyell's shaft. Stope in back of 620 north of 530 south winze cut 12 fathoms 4 feet. Lode 6 feet wide, assaying 1 ounce 6 dwts. of gold per ton. Stope south of winze cut 12 fathoms 1 foot 6 inches. Lode 6 feet wide, assaying 1 ounce 16 dwts. of gold per ton. Stope north of north rise cut 5 fathoms 6 inches. Lode 6 feet wide, assaying 1 ounce 10 dwts. 14 grains of gold per ton. Stope south of rise cut 11 fathoms 4 feet 3 inches. Lode 6 feet wide, assaying 19 dwts. 10 grains of gold per ton. Stope in back of 620 north of 530 north winze cut 2 fathoms 3 feet 6 inches. Lode 2½ feet wide, assaying 18 dwts. 9 grains of gold per ton. Stope south of winze cut 7 fathoms 1 foot 9 inches. Lode 1½ feet wide, assaying 1 ounce 13 dwts. 13 grains of gold per ton. Stope in back of 620 north of 530 south winze cut 9 fathoms 4 feet 10 inches. Lode 2½ feet wide, assaying 1 ounce 9 dwts. 14 grains of gold per ton. Stope south of winze cut 3 fathoms 1 foot 9 inches. Lode 1½ feet wide, assaying 1 ounce 13 dwts. of gold per ton. Stope in back of 530, north of north rise, cut 8 fathoms 4 feet. Lode 4 feet wide, assaying 1 ounce 14 dwts. 3 grains of gold per ton. Stope south of rise cut 6 fathoms 1 foot. Lode 6 feet wide, assaying 1 ounce 4 dwts. of gold per ton. Stope in back of 530, north of south rise, cut 5 fathoms. Lode 2 feet wide, assaying 1 ounce 12 dwts. of gold per ton. Stope south of rise cut 3 fathoms 4 feet 3 inches. Lode 2 feet wide, assaying 1 ounce 12 dwts. 3 grains of gold per ton.—Garland's shaft. Stope in back of 530, south of south rise, cut 2 fathoms 6 inches. Lode 6 feet wide, assaying 1 ounce 17 dwts. 15 grains of gold per ton. Stope in back of 530 north, north of No. 1 rise, cut 3 fathoms 5 feet 2 inches. Lode 2½ feet wide, assaying 1 ounce 6 dwts. of gold per ton. Stope south of rise cut 8 fathoms 3 feet 3 inches. Lode 2½ feet wide, assaying 1 ounce 2 dwts. of gold per ton. Stope in back of 440, south of No. 1 north rise, cut 4 fathoms 6 inches. Lode 6 feet wide, assaying 11 dwts. 15 grains of gold per ton. Stope in back of 240 north of No. 2 north rise cut 6 fathoms 1 foot 3 inches. Lode 3 feet wide, assaying 1 ounce 15 dwts. 5 grains of gold per ton. Stope south of rise cut 10 fathoms. Lode 2½ feet wide, assaying 1 ounce 18 dwts. 8 grains of gold per ton. Stope in back of 240 south of No. 1 rise cut 3 fathoms. Lode 2 feet wide, assaying 1 ounce 19 dwts. of gold per ton. New stope in back of 340 south of No. 1 west cross cut north of Garland's cut 10 fathoms. Lode 3 feet wide, assaying 1 ounce 4 dwts. 17 grains of gold per ton.—Ribblesdale's Shaft. Stope in back of 340 north, south of No. 2 rise, cut 3 fathoms 3 feet. Lode 3 feet wide, assaying 1 ounce 19 dwts. 10 grains of gold per ton. Stope in bottom of 240 north of north winze cut 8 fathoms. Lode 6 feet wide, assaying 1 ounce 3 dwts. 14 grains of gold per ton. Stope in bottom of the 200 south of 240 north rise cut 11 fathoms 3 feet. Lode 2½ feet wide, assaying 16 dwts. of gold per ton. No. 1 stope in back of 200 feet level cut 6 fathoms 1 foot 4 inches. Lode 4 feet wide assaying 11 dwts. 15 grains of gold per ton. No. 2 stope in back of level cut 4 fathoms. This is up to bottom of old works and suspended. Stope south of No. 1 rise in back of 240 south cut 5 fathoms 2 feet 9 inches. Lode 4 feet wide assaying 18 dwts. 15 grains of gold per ton. Stope north of No. 2 rise cut 9 fathoms 1 foot. Lode 3½ feet wide assaying 19 dwts. 10 grains of gold per ton. New stope south of No. 1 rise in back of 240 south cut 2 fathoms 5 feet 3 inches. Lode 4 feet wide assaying 11 dwts. 15 grains of gold per ton. New stope north of rise cut 1 fathom 3 feet 4 inches. Lode 4 feet wide assaying 1 ounce 18 dwts. of gold per ton. New stope No. 2 north of No. 2 rise cut 4 fathoms 1 foot 8 inches. Lode 3 feet wide assaying 1 ounce 12 dwts. 19 grains of gold per ton. New stope south of No. 2 rise cut 1 fathom 4 inches. Lode 6 feet wide assaying 1 ounce 19 dwts. 6 grains of gold per ton. The above stoping is for June month.

GOLD FIELDS OF MYSORE.—Fortnightly report on prospecting operations dated July 16: West Balaghat Block. No. 1 Shaft. North drive at the bottom of this shaft, 117 feet from surface, has been driven 6 feet 9 inches, total distance from shaft 65 feet 6 inches. Lode in the end 2 feet wide, assaying 10 dwts. of gold per ton. South drive has been driven 4 feet 4 inches, total distance from shaft 75 feet 4 inches. Lode in the end 2 feet wide, assaying 15 dwts. 6 grains of gold per ton.—No. 2 Shaft. This has been sunk 3 feet 3 inches, total depth from surface 140 feet 6 inches. Lode in the bottom 1 foot wide, assaying 13 dwts. 18 grains of gold per ton. North drive, 100 feet from surface, has been driven 4 feet, total distance from shaft 71 feet 3 inches. Lode in the end 2 feet 3 inches wide, assaying 12 dwts. 9 grains of gold per ton. South drive has been driven 4 feet 6 inches, total distance from shaft 85 feet 2 inches. Lode in the end 1 foot wide, assaying 14 dwts. 17 grains of gold per ton.—No. 4 Shaft. This has been sunk 4 feet 2 inches, total depth from surface 134 feet 4 inches. Lode in the bottom 2 feet wide, assaying 11 dwts. of gold per ton.—Road Block, Shaft No. 3, North No. 2, Eastern lode. North drive at the bottom of this shaft, 57 feet from surface, has been driven 6 feet, total distance from shaft 17 feet. No lode in the end. South drive has been driven 9 feet, total distance from shaft 30 feet 6 inches. Lode in the end 3 feet wide, assaying 1 ounce 3 dwts. 14 grains of gold per ton.—North Shaft. This has been sunk 3 feet, total depth

56 feet. Lode in the bottom 1 foot 3 inches wide, assaying 13 dwts. of gold per ton.—Trench, 3000 feet east of the above. We have made this trench 81 feet long, 11 feet deep, and 3 feet wide. We have met with a small stringer of quartz in this of no value. It has been suspended.

GOLD FIELDS OF MYSORE.—Mine report for fortnight ending July 16: Oriental lode, south shaft. The 470 feet level north of shaft has been extended 5 feet, total length 101 feet. Lode 1½ foot wide, assaying 13 dwts. 15 grains of gold per ton. 470 south extended 6 feet, total length 111 feet 6 inches. Lode 4 feet wide, assaying 11 dwts. of gold per ton. The 380 feet level north has been extended 4 feet 7 inches, total length 206 feet 2 inches. Lode 1 foot wide, assaying 12 dwts. 17 grains of gold per ton. 380 south extended 5 feet 3 inches, total length 198 feet 9 inches. Lode 4 feet wide, assaying 1 ounce 3 dwts. 14 grains of gold per ton. The 280 crosscut east has been extended 4 feet 6 inches, total length 247 feet 9 inches. We have passed through a branch of quartz 4 inches wide, underlying west, yielding a little gold by pan washing. The strata at present is of a more favourable character.—Prospecting work. I am sending a report on this department.

HARRIETVILLE.—Fortnightly report of Mr. T. G. Davey, superintendent, dated July 6: Mons Meg Mine: Drive north of winze on main shoot 100 feet below tunnel D advanced 9 feet, total 141 feet. Lode much disordered and poor. Rise at back of same drive advanced 21 feet. Lode wide but non-auriferous. No further advance has been made in the south rise, where we are engaged in developing the lode in footwall which is 8 feet wide, and although auriferous not yet payable.—Stopes. Lode in stopes at back of drive south of tunnel D 8 feet wide and producing stone of average quality, in which gold is occasionally visible. Stope between 160 feet and 240 feet levels below J lode 18 inches wide and of good quality. In view of this improvement we are about to extend the 240 feet level south. Lode at back of 44 feet level payable, but much disturbed by contact with fault.—Saint Bernard Mine. In retimbering an old drive near the end of the lower tunnel gold has been found to exist in a large lode which was hidden from view by the old timbers. This will be immediately developed, and may lead to an important discovery as it is in the vicinity of what should be the continuation of the United Miners' main lode.—Returns. We cleaned up on the 27th June for the following returns, viz.:—Mons Meg 493 tons, yielding 140 ounces 18 dwts. 6 grains of gold.—Pyrites Works. 12½ tons for 12 ounces 10 dwts. gold. Saint Bernard 15 tons for 16 ounces 19 dwts. 12 grains; and 5 tons for 20 ounces 12 dwts. 6 grains of gold. Total for four weeks 191 ounces melted gold.

KABOONGA.—Extracts from manager's reports: July 3. Last night another bore (3 inches) was put up 26 feet ahead, and went through at 12 feet 6 inches into somewhat similar sandy clay, but containing so many rough angular quartz stones that very little stuff could be got down—perhaps half a kerosene tin full. The first dish of this washed, showed nine or ten specks of free gold, three of them as large as pins heads. The remainder in the next dish was as good, and one speck was somewhat larger than any in the first. The prospect was fully payable.—July 10. Two more bores have been put up in south east top level, going through at 13 feet, and at 13 feet 6 inches respectively into a rough angular wash, and very little water. From the small quantity of stuff that came down in each case a good many specks of gold were obtained. The gold is not waterworn, which shows we are not yet in the stream bed, but a rise will be put up in a few days to have a look at it, and ascertain which way is the dip. The puddling machinery will now be got ready, and this stuff, which doubtless forms part of an extensive reef wash or terrace deposit, will be tested in bulk.

MOUNT LYELL.—The London committee have received the following report from the mine for the week ending June 28: Engine shaft, 100 feet level. The south drive has been advanced 7 feet, total 36 feet. No change to report.—Intermediate 75 feet. The crosscut has been driven 7 feet, total 27 feet. At this point the main body of pyrites was cut. Driving north has been commenced.—50 feet. The south drive has been driven 3 feet, total 141 feet. Still very hard.—No. 1 winze. The winze has been sunk 3 feet, total 26 feet. Still sinking in iron alongside the pyrites, which are now underlying to the east. There is a little water making.—Stopes. There is no change to report in the stopes. The faces are still turning out rich ore. The winze at the end of the west crosscut has been sunk 8 feet, total 20 feet. The ore passed away to the west at a depth of 14 feet. The winze is being sunk straight to connect with the intermediate north level.—No. 5 tunnel. The contractors have driven 21 feet, total 667 feet. There is no change to report. The country is very favourable for driving. Ore raised 620 bags, containing 14 tons 5 cwts. 2 qrs. 12 lbs. and containing 10,002 ounces silver, and 5 tons 1 cwt. 3 qrs. 3 lbs. copper, or an average of 374 ounces silver, and 20¼ per cent. copper per ton.—Ore despatched. 200 bags, weighing 12 tons 10 cwts., containing 11,400 ounces silver, and 5 tons 5 cwts. of copper.

MOUNT ZEEHAN (Tas.).—The manager reports for week ended June 29: Argent section. Main engine shaft, No. 6 lode, intermediate level south stope. Ore raised 48 tons good seconds and 7 tons firsts, assaying lead 72 per cent., silver 109 ounces. This stope is now exhausted.—No. 1 level south. Extended 9 feet, total 190 feet. No improvement so far, but expect in a few feet to cut ore shoot met with in intermediate level.—Stope. Ore raised 48 tons good quality seconds.—No. 2 level south. Rise and stope continued. Ore raised 44 tons fair seconds. Lode 3 feet wide, good milling ore.—No. 1 level north underhand stope. Ore raised 19 tons good seconds. Lode 3 feet wide, but quality not so good.—Cross cut west to No. 7 lode. Extended 6 feet 9 inches, total 89 feet 6 inches. No change.—No. 3 lode, No. 2 shaft, No. 1 level south. Extended 5 feet 6 inches, total 43 feet. Ore raised 24 tons low quality seconds. This level not being payable have suspended it for the present. Concentrator has been run 54½ hours and milled 189 tons seconds for 35 tons 6 cwts. concentrates, containing about 26 tons 7 cwts. lead and 3070 ounces silver.

MILLS' DAY DAWN UNITED.—Mine manager's report for fortnight ending June 18: Underlie shaft sunk and timbered 12 feet, total distance from No. 8 plat 78 feet. No. 8 level west driven 20 feet in formation. Expect to strike the main reef during next fortnight. No. 7 level west winze sunk 8 feet, total from level 50 feet, carrying 1 foot of medium quality stone. Stopes average 10 feet of good quality stone. The hanging wall stopes average 5 feet of good quality stone. No. 6 level east stopes carry 4 feet of good stone. No. 6 level west winze sunk 34 feet and holed to stopes. Total distance from level 60 feet. Intermediate level stopped, and a roadway formed 30 feet further along the stopes making it more convenient for getting away the quartz. Stopes average 2 feet 6 inches of good stone. The east level has been driven 14 feet on 15 inches medium quality stone. No. 5 level east stopes carry 5 feet medium quality stone. No. 5 level west winze sunk a further 8 feet. Reef averages 3 feet of poor stone. Reef in stopes averages 4 feet of fair quality stone.—No. 4 level east. Stoping is finished between this and No. 3 level east. Am now working in the stopes on small block of ground between 5 and 6 levels. No. 3 level east footwall. Cross cut has been driven 8 feet on 1 foot of fair stone. Am stoping in the old stopes over this level on 1 foot of medium stone. Stone raised during fortnight 2050 tons.

MYSORE REEFS.—Fortnightly report of Captain M. Scantlebury, mine agent, dated July 24: Underlie shaft. This shaft has been sunk 10 feet 6 inches, now 21 feet 6 inches below the 250 feet level. The lode is 3 feet wide. The quartz against the hanging for a width of 1 foot 6 inches is worth 1 ounce 6 dwts. of gold to the ton. The quartz on the footwall for a width of 1 foot 6 inches is worth 4 dwts. of gold to the ton. 250 feet level north has been extended 14 feet, now 92 feet 6 inches from shaft. The lode is 2 feet wide and worth 15 dwts. of gold to the ton. The 250 feet level south has not been driven, but when the communication is effected between the two shafts the driving of this end will be resumed.—Vertical shaft. This shaft has been sunk by hand labour 2 feet 6 inches, now 6 feet 3 inches below the level. The rock is very hard and we can only work two shifts of men at present. 200 feet level south has been advanced 16 feet, now 134 feet 6 inches from shaft. The lode is 2 feet wide assaying 7 dwts. of gold per ton. Winze below the 200 feet level south has been sunk 3 feet, now 8 feet below the level. The lode is 1 foot wide and worth 15 dwts. of gold to the ton.—200 feet level north. Rise above this level has been put up 7 feet. The lode is 1 foot 6 inches wide and worth 18 dwts. of gold to the ton. The 200 feet level north has not been driven. We want to put up two or three rises with the rock drill preparatory to putting men to stope the back by hand labour.—Surface. The 10 heads of stamps are working well, but unfortunately we are short of water and very little stuff can be put through. We have built two large tanks and if we can only get a good shower of ran to fill them we shall then be able to run the mill continuously. This is only a question of days or weeks, whilst on the other hand we are daily expecting to cut a stream of water in the shafts.

MYSORE GOLD.—R. Hancock, July 24: Mining operations for the fortnight ending July 23: Rowse's shaft, 1460 north of cross cut. This end has been driven 24 feet, making a total distance driven of 79 feet 6 inches. The lode is 1 foot 6 inches wide, assaying 15 dwts. 15 grains.—1360 feet level north, south of cross cut. This end has been driven 2 feet 6 inches, making a total distance driven of 120 feet 4 inches. The lode is 1 foot wide, assaying 1 ounce 8 dwts. 6 grains.—1360 feet level north of winze. The rise in the back of this level has been put up 11 feet, making a total height of 79 feet, and communicated to the 1260 feet level north. The winze in the bottom of this level has been sunk 6 feet 6 inches, making a total depth of 103 feet. The lode is 2 feet wide, assaying 13 dwts. 1 grain. We have to-day started driving the 1460 north of winze.—1260 feet level north. There are six stopes in the back of this level, the average width of the lode being 5 feet 1 inch, giving an average assay of 18 dwts. 18 grains.—1260 feet level south. Driving south on the fold in the back of this level has been driven 16 feet 6 inches, making a total distance driven of 88 feet 6 inches. The lode is 4 feet wide, assaying 2 ounces 18 dwts. 6 grains. We have started to sink a winze in the bottom of this level about 30 feet south in a direct line from the shaft, with the object of effecting a communication with the rise put up in the back of the 1360 feet level south of cross cut, sunk 8 feet. The lode is 1 foot wide, assaying 13 dwts. 1 grain. There are two stopes in the back of this level, the average width of the lode being 2 feet, giving an average assay of 1 ounce 5 dwts. 15 grains.—1160 feet level north. There are five stopes in the back of this level, the average width of the lode being 1 foot 8 inches, giving an average assay of 18 dwts. 3 grains.—1160 feet level south. The lode in the stope in the back of this level is 1 foot 6 inches wide, assaying 2 ounces 3 dwts. 6 grains.—1060 feet level north. The lode in the stope in the back of this level is foot 6 inches wide, assaying 1 ounce 12 dwts. 16 grains. We have two pares of men stripping down side in the bottom of this level, in which the lode averages 1 foot wide, giving an average assay of 8 dwts. 18 grains.—990 feet level north. We have a pare of men eugaged stripping down side in the back of this level, in which the lode is 1 foot 6 inches wide, assaying 12 dwts.—890 feet level north. The lode in the stope in the back of this level is 3 feet wide, assaying 7 dwts. 19 grains.—780 feet level north. This end has been driven 14 feet, making a total distance driven of 522 feet. On the 19th inst. we intersected the lode, which is now 3 feet wide, assaying 3 dwts. 22 grains. The lode in the stope in the back of this level is 3 feet wide, assaying 1 ounce 6 dwts. 3 grains.—620 feet level north of cross cut. This end has been driven 4 feet, making a total distance driven of 250 feet. There are some small patches of quartz in the end. There are three stopes in the back of this level, the average width of the lode being 2 feet 6 inches, giving an average assay of 13 dwts. 16 grains.—466 feet level north of No. 1 crosscut. This end has been driven 13 feet 6 inches, making a total distance driven of 50 feet. The lode is 1 foot 6 inches wide, assaying 4 dwts.—400 feet level north. We have 2 pares of men engaged cutting out ground in the back of this level for Crocker's shaft. The lode averages 3 feet wide. No assay made.—296 feet level north. Driving north on the branch met with in the eastern side of the level above has been driven 22 feet 6 inches, making a total distance driven of 60 feet 6 inches. The lode is 1 foot 6 inches wide, assaying 17 dwts.—236 feet level north. We have a pare of men cutting out ground in the bottom of the rise in the back of this level on line of incline for Crocker's shaft.—Crocker's shaft, 400 feet level north. There are three stopes in the back of this level, the average width of the lode being 4 feet, giving an average assay of 3 dwts. 22 grains.—296 feet level north. There are two stopes in the back of this level, the average width of the lode being 2 feet 6 inches, giving an average assay of 12 dwts. 8 grains.—236 feet level north. There are four stopes in the back of this level, the average width of the lode being 1 foot 11 inches, giving an average assay of 1 ounce 6 dwts. 21 grains.—Taylor's shaft 400 feet level north. There are two stopes in the back of this level, the average width of the lode being 4 feet, giving an average assay of 15 dwts. 21 grains.—Gilbert's shaft, 650 feet level north. This end has been driven 4 feet, making a total distance driven of 408 feet. We have temporarily suspended the driving of this end, and have put the machine to sink a winze on the lode seen in the 520 feet level north.—520 feet level north. The winze started in the bottom of this level is 440 feet north of the shaft. We have sunk to date 12 feet. The lode is 3 feet wide, assaying 5 dwts. 5 grains. The lode in the stope in the back of this level is 2 feet wide, assaying 19 dwts. 14 grains.—520 feet level south. The lode in the stope in the back of this level is 1 foot wide, assaying 14 dwts. 8 grains.—360 feet level north. There are two stopes in the back of this level, the average width of the lode being 2 feet 2 inches, giving an average assay of 1 ounce 3 dwts. 2 grains.—290 feet level north. There are four stopes in the back of this level, the average width of the lode being 1 foot 10 inches, giving an average assay of 16 dwts. 19 grains.—180 feet level south. Taking away arches of ground in the back and bottom of this level. The lode averages 2 feet 6 inches wide, giving an average assay of 16 dwts. 7 grains.—Tennant's shaft. We have a pare of men cutting out ground for putting in timber for a lift. The plat is completed, and the machine has resumed the driving of the 600 feet level north.—600 feet level north. This end has been driven 16 feet 9 inches, making a total distance driven of 42 feet. There some small branches of quartz mixed with the rock in the end.—520 feet level north. The rise in the back of this level has been put up 7 feet, making a total height of 101 feet. There is nothing here to report. The lode in the stope in the back of this level is 3 feet wide, assaying 1 ounce 3 dwts. 6 grains. The winze in the bottom of this level has been sunk 10 feet, making a total depth of 22 feet. The lode is 3 feet wide, assaying 9 dwts. 2 grains.—360 feet level north, south of cross cut. The winze in the bottom of this level has been sunk 1 foot 6 inches, making a total depth of 56 feet 6 inches. This place is now suspended.—290 feet level south, south of cross cut. The winze in the bottom of this level has been sunk 8 feet. The lode is 2 feet wide assaying 1 ounce 12 dwts. 16 grains.—Schaw's shaft, 450 feet level north cross cut east. This end has been driven 2 feet, making a total distance driven of 29 feet. The winze in the bottom of this level has been sunk 3 feet 3 inches, making a total depth of 93 feet. The lode is 1 foot wide assaying 1 ounce 8 dwts. 17 grains. There are 2 stopes in the back of this level, the average width of the lode being 1 foot 3 inches, giving an average assay of 12 dwts. 12 grains.—450 feet level north, south of cross cut. The winze in the bottom of this level has been sunk 10 feet, making a total depth of 26 feet 6 inches. The lode is 2 feet wide assaying 19 dwts. 14 grains. There are 2 stopes in the back of this level the average width of the lode being 2 feet, giving an average assay of 12 dwts. 9 grains.—320 feet level north. The winze in the bottom of this level has been sunk 2 feet 6 inches, making a total depth of 162 feet 3 inches. We have suspended the sinking of this winze and put the men to stope in the back of the 450 feet level south of cross cut.—320 feet level north of cross cut. The rise in the back of this level has been put up 3 feet, making a total height of 95 feet 6 inches. We have suspended this working and have put the machine to stope in the back of the 236 feet level north of Crocker's.—320 feet level south of cross cut. This end has been driven 2 feet, making a total distance driven of 176 feet. This working has been suspended and the men put to stope in the back of the 450 feet level north of crosscut. The lode in the stope in the back of this level is 1 foot 6 inches wide assaying 3 dwts. 22 grains.—220 feet level north This end has been driven 3 feet 6 inches, making a total distance driven of 269 feet 9 inches.—McTaggart's shaft. This shaft has been sunk 3 feet, making a total depth of 33 feet 6 inches below the 450 feet level. The sinking has been suspended, and the machines are now engaged in cutting out a plat at the 450 feet level.—450 feet level south. The lode in the stope in the back of this level is 1 foot 6 inches wide, assaying 6 dwts 12 grains.—Glen shaft, 250 feet level north cross cut west. This has been driven 12 feet, making a total distance driven of 48 feet 9 inches.—Cross cut east. This has been driven 2 feet 6 inches, making a total distance driven of 256 feet 6 inches.—Ribblesdale's shaft. This shaft has been sunk 13 feet, making a total depth of 350 feet.—1060 rise. This has been put up 7 feet, making a total height of 28 feet.—Williams's shaft, 173 feet level cross cut east. This has been driven 3 feet, making a total distance driven of 56 feet. The health of the camp is good.

NINE REEFS.—Fortnightly report of Captain John Woolcock, mine agent dated July 24: Vyvyan's shaft. In the cross cut east at the 460 feet level we opened out on the east lode for a short distance to the north and south of cross cut, and finding the lode to be most disordered, and the quartz which made in small patches and veins in the hard country rock, was found to be barren, and the lode formation had no defined walls, and I thought it advisable to suspend the driving. These men were then put to work in back of the 220 feet level. The 220 feet level at 50 feet to the south of shaft, we have put up a rise 10 feet 3 inches. The quartz leader for this height varies from 10 to 4 inches wide, and at times shows a good deal of visible gold. We are now stoping to the north and south of rise. The No. 1 stope to the south of rise the leader is 10 inches wide, and worth by assay 2 ounces 10 dwts. 8 grains of gold per ton. The No. 2 stope north, the quartz is 6 inches wide, worth by assay 2 ounces 6 dwts. 4 grains of gold per ton. The water at present is being kept at the 300 feet level, while we prove if the lode in the back of the 220 feet level will pay for extraction or not.—Bennett's shaft. The 145 crosscut west to the north of this shaft has been driven 15 feet 9 inches. Total distance from level 278 feet 9 inches. At this point we intersected a lode 15 inches wide composed of white soft quartz, carbonate of lime, and soft country rock, and underlying west at an angle of 50°. It has been sampled every day, and in two pan washings I got a few fine colours of gold. On the 18th inst. I put the men to drive south on its course to see if it will improve in that direction. This level has been driven 3 feet.—South shaft: The shaft rising on the course of the lode from the end of the west crosscut has been put up 12 feet 6 inches, total from bottom of crosscut 23 feet 6 inches. The size of shaft is 10 feet by 5 feet within timber. The lode, which is 5 feet wide, is letting out an increased quantity of water. We can only raise for a set at a time, and our timberman is devoting the whole of his time to this point. I hope to effect a communication with the vertical in the next fortnight, after which we shall resume the sinking below the crosscut as soon as possible. The crosscut east from this shaft has been further advanced 9 feet 11 inches, total from shaft 40 feet 9 inches. More work would have been done here during the past fortnight had it not been for the defective state of our tubular boiler, which is unable to generate steam to keep our compressor and winding engine going at the same time, but I trust this will be overcome, when we get the large boiler in order. Messrs. Borham and Co's men are busy about the new crown, which I trust will be finished in a fortnight from this date.—Prospecting. The No. 1 shaft which is being sunk on the McTaggart's lode, and 60 feet from our southern boundary has been further deepened 6 feet, total from surface 85 feet 8 inches. The lode, which is 20 inches wide, is worth by assay 6 dwts. 10 grains of gold per ton. We are meeting with more water as depth is attained. There is no change in the No. 4 shaft since last report. The ground continues very hard; the crosscuts have been extended east 2 feet 1 inch, total 4 feet 1 inch, and west 2 feet 5 inches, total 4 feet 4 inches, without meeting with anything of importance. The No. 5 shaft has been sunk 14 feet 9 inches, total from surface 58 feet 7 inches. The lode is 15 inches wide of a similar nature as reported on the 10th inst., and worth by assay 7 dwts. 6 grains of gold per ton.

NUNDYDROOG.—July 24: Report of the work done for the first fortnight in July: Taylor's shaft sunk 2 feet, total depth 1087 feet. The lode is 2 feet wide, assaying 18 dwts. 12 grains per ton. 1080 north driven 25 feet, total length 46 feet. The lode is looking well, being 2½ feet wide, and assaying 1 ounce 9 dwts. 6 grains per ton. 1080 south driven 17 feet, total length 20 feet. The lode is 2 feet wide, and assays 12 dwts. per ton. 1000 south cross cut east driven 15 feet 6 inches, total length 27 feet. The ground is very hard. 1000 north driven 17 feet 6 inches, total length 530 feet. The lode is looking much better here; it is now 1½ foot in width, and assays 15 dwts. per ton. 1000 north rise risen 15 feet, total height 15 feet. The lode is 2 feet wide, and assays 10 dwts. 18 grains per ton. We expect to hole this to the winze in the 920 north shortly. 920 north winze sunk 17 feet, total depth 62 feet. The lode is 3 feet wide, and assays 2 ounces 3 dwts. 6 grains per ton. 920 north No. 2 drive driven 36 feet, total length 256 feet. The lode is 2½ feet wide, assaying 12 dwts. per ton. 680 north cross cut east driven 15 feet, total length 39 feet. We have cut a few stringers of quartz, and the ground is looking more promising. 680 north cross cut west driven 18 feet, total length 45 feet. There is no change to report here. Main shaft sunk 12 feet, total depth 852 feet. Shortly after we started sinking below the 840 we came into the lode, which is 1 foot wide, assaying 1 ounce per ton. Kennedy's shaft sunk 1 foot, total depth 550 feet. During the early part of the month we were hindered here by putting in a pole at the 520 level; this is now working satisfactorily, and we hope to make good speed in sinking. 520 south driven 23 feet 6 inches, total length 123 feet 6 inches. The lode is 1½ foot wide, and assays 17 dwts. 6 grains per ton. 520 north driven 18 feet, total length 123 feet. The lode is opening out again here, and is now 1½ foot wide, assaying 1 ounce 12 grains per ton. 520 north rise risen 35 feet 6 inches, total height 106 feet. The lode is 2½ feet wide, and assays 10 dwts. 18 grains per ton. This rise is holed to the 440 north drive. 440 north No. 3 rise risen 43 feet 6 inches, total height 43 feet 6 inches. The lode is a fine one, 5½ feet wide, assaying 2 ounces 5 dwts. 12 grains per ton. 440 north back stope stoped 6 fathoms in a lode 8 feet wide, assaying 2 ounces 12 dwts. per ton. 370 north bottom stope stoped 7½ fathoms in a lode 4 feet wide, assaying 1 ounce 5 dwts. per ton. 370 north back stope stoped 10 fathoms in a lode 2 feet wide, assaying 3 ounces 1 dwt. 18 grains per ton. 370 north cross cut west driven 16 feet 6 inches, total length 20 feet 6 inches. The ground is very hard here. 300 south rise risen 6 feet, total height 6 feet when we holed to the winze in the 160 north.—Intermediate drive. The lode in the rise was 6 inches wide, and assayed 1 ounce 2 dwts. 18 grains per ton. The stopes, drives, &c., working by hand labour are as follows:—1000 south winze, size of lode 1 foot, assay value 3 dwts. 6 grains. 920 north No. 1 drive, size of lode 6 inches, assay value 4 dwts. 6 grains. 760 north No. 1 back stope, size of lode 1 foot, assay value 16 dwts. 6 grains. 680 north winze, size of lode 4 inches, assay value 3 dwts. 6 grains. 680 north No. 1 bottom stope, size of lode 1 foot 3 inches, assay value 13 dwts. 680 north No. 2 bottom stope, size of lode 1 foot 3 inches, assay value 8 dwts. 18 grains. 600 north No. 1 bottom stope, size of lode 1 foot 6 inches, assay value 10 dwts. 18 grains. 600 north No. 2 bottom stope, size of lode 1 foot, assay value 16 dwts. 600 north intermediate, size of lode 6 inches, assay value 5 dwts. 12 grains. 600 north No. 1 back stope, size of lode 1 foot, assay value 14 dwts. 600 north No. 2 back stope, size of lode 1 foot 6 inches, assay value 10 dwts. 18 grains. 520 north No. 1 bottom stope, size of lode 1 foot, assay value 13 dwts. 520 north No. 2 bottom stope, size of lode 1 foot, assay value 15 dwts. 6 grains. 520 north No. 3 bottom stope, size of lode 1 foot, assay value 10 dwts. 18 grains. 520 north No. 4 bottom stope, size of lode 1 foot 6 inches, assay value 8 dwts. 18 grains. 520 north No. 1 back stope, size of lode 1 foot 6 inches, assay value 6 dwts. 12 grains. 370 north No. 1 back stope, size of lode 1 foot, assay value 7 dwts. 12 grains. Kennedy's 95 north intermediate stope, size of lode 3 feet, assay value 10 dwts. 95 north No. 2 bottom stope, size of lode 1 foot, assay value 9 dwts. 18 grains. 160 north intermediate, size of lode 6 inches, assay value 14 dwts. 160 north intermediate, No. 1 winze, size of lode 6 inches, assay value 1 ounce 10 dwts. 300 south No. 1 back stope, size of lode 1 foot, assay value 13 dwts. 300 south No. 2 back stope, size of lode 1 foot 6 inches, assay value 17 dwts. 6 grains.

300 south No. 3 back stope, size of lode 3 feet, assay value 2 ounces 4 dwts. 12 grains. 300 north No. 1 back stope, size of lode 2 feet 6 inches, assay value 1 ounce 9 dwts. 6 grains. 370 south drive, size of lode 3 feet, assay value 5 dwts. 12 grains. 370 north drive, size of lode 1 foot, assay value 3 dwts. 6 grains. 370 north bottom stope, size of lode 2 feet, assay value 1 ounce 12 grains. 440 south, size of lode 3 feet, assay value 2 ounces 14 dwts. 6 grains.—Mills. Both mills and tailings machinery are running well.—Health. The general health of the camp is good.—Old mill samples. Rough quartz through stonebreaker, 1 ounce 9 dwts. 6 grains. Smalls, 1 ounce 12 grains.—New mill samples. Rough quartz through stonebreaker, 18 dwts. 12 grains. Smalls, 17 dwts. 6 grains.

OURO PRETO.—Passagem Mine, Incline shaft No. 1 was sunk 1·40 metres. The breast is mostly in schist, but good looking quartz with patches of pyrites is standing over the back. Incline shaft No. 2 was not sunk, the men being employed rising over the roof. For 1·50 metres the rise passed through good quality quartz, and then through schist to the hanging wall, the distance risen being 2·90 metres. A trial was also made by a sink 2·80 metres deep and mineral about 1·50 metres thick was found under the floor, so that with ore in the incline, the thickness of lode is over 5 metres. 470 end north-east was driven 2 metres in dark coloured schist without ore. 470 end south-west was driven 1·10 metres, also without ore at present. 435 end north-east was driven 7 metres in mixed lode of schist and quartz, which latter makes in irregular bunches. 435 end south-west driven 3·60 metres in quartzite. 400 end north-east was driven 6·80 metres, full size in a strong body of quartz carrying patches of pyrites. A crosscut will be started to prove the size of this ore body. Crosscut from stope at 400 north-east was driven 4·30 metres, and having got into schist of the footwall has been suspended. Winze at 435 over shaft was sunk 2 metres and holed to roof of No. 1 shaft, making a very fine tip shoot for ore from future stopes at 435 level. 365 end north-east was driven 4·90 metres, and carries lode 1·50 metres thick, composed of quartz with good patches of pyrites, but quartz is holding along the floor. Crosscut No. 3 at 365 north-east was driven 5·90 metres, and has passed out of the ore into quartzite. End from No. 2 crosscut at 365 was driven 7·30 metres, full size, in strong quartz lode impregnated throughout with pyrites, and is opening up some very fine stoping ground. 365 end south-west was driven 6·40 metres. The lode is composed of quartz and hard tourmaline ore about 1·50 metres thick carrying patches of arsenical pyrites, but schist continues along the floor. 315 end south-west was driven 2·40 metres in mixed lode consisting of interstratified lines of quartz and quartzite. Rise over the 315 south-west was advanced 6·80 metres in schist with only occasional lines of quartz. Crosscut from 265 south-west was driven 4·40 metres in massive schist, and so far has not met with any lower pyritic lines. Rise from 265 south-west advanced 2·70 metres. Quartz lines are met with in the schist, and it appears as if ore is making. 215 end north-east was driven 5·80 metres. A branch of ore 0·30 metres thick is still holding along the floor, but the rest of the end is in schist. 175 end south-west was driven 2·50 metres in dry schist and quartzite.—Stoping. The total amount of stoping done was less than usual, owing to the number of past feast days, but there is a large quantity of ore broken underground and the supply is well maintained. At the 400 level No. 4 stope between the two shafts has reached a point exactly under the 365 level, and it is now seen that though the level was driven in poor ground, a large body of ore exists at the same level several metres distant from the hanging wall. The ore in face of stope is nearly 6 metres thick and of good average yield throughout. On the south-west side at the same level, the stope from rise 28 is looking well, the lode being 5 metres thick, though it carries occasional bars of quartzite. Over the 365 north-east 3 stopes are being worked. The lode is very regular, carrying good patches of pyrites throughout and averages about 3.50 metres thick. Over the 365 near No. 1 shaft a strong massive body of quartz is being worked which has still farther increased in size, and though a height of 5 metres is being carried, the floor of stope will have to be taken up to remove the whole of the lode. Over the 235 south-west the lode continues without change, of great thickness, but carrying a large amount of schist, the clean ore being met with chiefly against either wall. In the stopes at 315 south-west the quartz has still further increased in size, and is holding up under the schist against hanging wall. It is about 4 metres thick, and very white carrying little pyrites though several assays show it to be of average yield.—(Signed) Henry J. Gifford.

OSCAR.—The following report has been received from the mine, dated Haugesund, August 10: Hodgkinson's lode. There is little alteration in the 500 north level. The lode is still running in disturbed ground; the quartz is 10 inches in width, and is highly mineralised. Assays show gold contents to average 3½ dwts. per ton of quartz. The quartz in 400 north end holds a width of 4 feet, same contains a little iron pyrites and galena. Assay value 3 dwts. 6 grains gold per ton. As this level is close under the rich gold shute from 200, an early improvement may be looked for. Stoping in back of 400 north level, the lode is over 5 feet in width, with mill quartz, containing galena and copper pyrites, with occasional sights of gold on footwall. Assay value 5 dwts. per ton. The 300 south level shows a strong quartz lode over 5 feet wide, with bunches of copper and iron pyrites. Quartz with mineral assays value 13 dwts. gold per ton. In rise in 200 north the quartz is still intermixed with the country rock, the lode showing altogether undefined and irregular. The lode quartz contains a quantity of mineral, and has shown assay value of over an ounce of gold to the ton. In back of 150 south the lode is 3 feet wide, half of which is quartz, carrying copper pyrites with a trace of galena, and having assay value varying from 2 dwts. to 7 dwts. gold per ton.

QUEEN CROSS REEF.—Copy of manager's report for fortnight ending June 26: Since last report, the contractors, Davis and party, have timbered up 68 feet 6 inches, and sunk 6 feet 6 inches, making the shaft a total depth of 855 feet 6 inches from the surface and 33 feet below the timber. There are still floors coming in from the western side of the shaft. Barret and party, tributors have finished a crushing of 85 tons at the Venus mill for a yield of 78 ounces 3 dwts. of smelted gold and have started to work again. We put through a test crushing of 12 tons 8 cwts. from Brunskill's tribute for a yield of 37 ounces 5 dwts. of smelted gold. Fox and mate are doing fairly well. I have had two men helping me to repair the pump shaft for one shift. Everything in connection with the mine is in good working order.

SUTHERLAND REEF.—Manager writes:—The drives east and west have been advanced to 57 and 84·6 respectively. The reef in each drive is looking very good, some of the rock coming from the drives showing visible gold. The reef also looks very well in the bottom of the shaft. I have abandoned sinking the prospecting shaft, as I am quite satisfied with the reef, and as our eastern drive at the 150 feet level is extending towards this portion, that will prove the reef in this direction.

SOUTH-EAST MYSORE.—Fortnightly report of Captain M. Scantlebury, mine agent, dated July 24: Beresford's Shaft. This shaft has been sunk by hand labour 6 feet, now 215 feet 6 inches from surface. The lode is 4 feet wide, and worth 8 dwts. 12 grains of gold to the ton. 200 feet level north has been advanced 16 feet 6 inches, now 87 feet 6 inches from shaft. The lode is 4 feet wide, 2 feet of quartz against the hanging wall is worth 1½ ounce of gold to the ton. The footwall portion for a width of 2 feet is worth 3 dwts. of gold to the ton. 200 feet level south has been extended 14 feet, now 83 feet 6 inches from shaft. The lode is slightly disturbed with a crossing of country rock. I have suspended this, and put the men to rise above the back of the level preparatory to stoping.—Pigott's Shaft. The cross cut east at the 180 feet level has been extended 6 feet, now 30 feet 6 inches from shaft. The rock is still hard and spare for driving through. A little water is now issuing from the forebreast, and I expect every day to cut the lode.—Surface. The work is proceeding satisfactorily.

VICTORIA AND QUEEN.—Copy of manager's report for fortnight ending June 27: During the past fortnight the winze in the underlie has been sunk a further distance of 17 feet, making total depth of 45 feet, which leaves 5 feet more to complete the contract. The reef in the eastern side is about 15 inches. Jevons and party have driven the No. 2 eastern drive a further distance of 16 feet, making the total 128 feet 6 inches, leaving a further 18 feet to drive to the boundary. The reef is about 5 inches. The stopes along the back of this drive average from 5 to 10 inches. The No. 1 drive west has been driven 3 feet on wages, and 9 feet on contract, making the total from slide 26 feet. The reef is about 10 inches. We have had a trial crushing of 8¼ tons from this drive, which gave a yield of 5 ounces 5 dwts. of retorted gold. We have also crushed 119 tons 17 cwts. for a yield of 183 ounces 5 dwts. of smelted gold. Hauled for the fortnight 45 tons, which leaves about 22 tons in the paddock. Machinery and everything connected with the mine is in good working order.

TASMANIA CROWN SILVER.—Manager's report July 4: Prospect shaft No. 1 has now attained a depth of 33 feet 6 inches from No. 1 level. The quantity of water increases as we get down, but the 9 inch lift keeps it down. Drive north from Prospect shaft has been extended to a total distance of 41 feet. The lode, which at the commencement of the period since last report was still well-defined, consisting of carbonate of iron with a little ore all through it, subsequently took a direction several degrees more to the westward, and narrowed to a width of 2 feet 6 inches. Since then the work was continued another 3 feet, and as there was no improvement, I determined to suspend the work for the present, and have transferred the men to drive west from No. 1 level, about half way between main shaft and Prospect shaft, where we drove through a soft band of decomposed schist and then struck the carbonate of iron formation. To date, a distance of 9 feet has been driven; it carries a little ore all through, but enough has not yet been done to determine whether it is worth following up.—Diamond drill. On the 30th ult. one of the tubes became deranged and had to be sent to Launceston for repairs. We are hoping to get it back at an early date when work will be resumed. Latterly the increase of water has been considerable, amounting to 1000 gallons per hour. The Government engineer reports that the character of the rock is often changing, some portions consisting of conglomerate carrying a quantity of pyrites. We are hoping that this increase of water and iron pyrites indicates our nearing the run of lode which is supposed to trend in this direction from the Montana Mine.—Geo. R. Tilly.

VICTORY (Charters Towers).—Copy of manager's report for fortnight ending June 30: No. 1 shaft stoping over drive on footwall reef at No. 6 level on 3 to 10 inches poor quality stone. Started winze from underhand stope on Papuan reef west side of cross drive at No. 11 level, present depth 23 feet, carries 10 inches good stone. Raised 30 tons. Drive from Papuan Company's lease extended 7 feet, total 89 feet, carries 8 inches fair stone. Raised 4 tons. Started work in Clarke's, Brilliant, Worcester, and Victory Company's lease on 18th inst. Opened out in shaft at 395 feet from surface, and have cross driven in 12 feet; will make better progress next fortnight. No. 2 shaft underlie sunk 14 feet, total 320 feet, carries 12 inches poor stone. No. 6 level driven 8 feet, total 70 feet, carries 18 inches medium quality stone. Stope from side of shaft below level carries 6 to 20 inches of stone, some of which looks fair and some very white. Stopes over No. 6 level 6 to 30 inches poor quality. No. 5 level driven 14 feet, total 194 feet, carries 6 inches poor quality. Stopes above 12 to 30 inches medium quality. Cross drive in No. 4 east extended 10 feet, total 194 feet. A little stone met with here occasionally, but the quality so far has been poor. Cross drive in No. 3 west driven 12 feet, total 50 feet, carries 8 inches in face. No. 1 west driven 5 feet, total 51 feet. Bunches of fair stone from 6 to 12 inches met with here. No. 1 A driven 12 feet, total 35 feet along footwall from where formation was first met with, or 128 feet from shaft. 3 feet of stone showing face, the quality of which appears to be pretty fair. Raised 345 tons.

PESTARENA.—August 3: The 46 east on No. 1 has been resumed to search for the ore-shoot now being driven on at the 55. The 55 east is yielding 2 tons per fathom at 1 ounce; there are two well-defined lodes with opposite dips, and an improvement is expected when the junction is passed through.—The 70 east is carrying a small branch of pyrites in the footwall.—The 70 east on A and B lodes produced 2 tons per fathom at 1 ounce 10 dwts., and looks most promising. The winze at the 70 on No. 1 lode is suspended, the ore shoot having passed through it to the west. The 90 west on No. 1 is yielding 4 tons at 1 ounce 5 dwts.; this is a new end to search for the ore shoot passed through by the 70 west. Preparations are being made for sinking a winze under the 110 east on No. 5 lode. The 140 west on No. 5 is unproductive at present.—Stopes on Caunter lode. At the 55 east the stopes yield 5 tons per fathom at 1 ounce; at the 120 east 3 tons at 1 ounce. Two stopes at the 90 yield 4 tons at 1 ounce 5 dwts., and 4 tons at 15 dwts. respectively. On No. 1 lode two stopes at the 55 east yield 12 tons at 2 ounces, and 3 tons at 1 ounce 5 dwts. respectively. Two at the 70 yield 7 tons at 1 ounce 10 dwts., and 5 tons at 1 ounce 15 dwts. One at the 90 yields 6 tons at 1 ounce 10 dwts.—Stabioli: In the Anza level the lode is 1 metre wide, mixed with small veins of pyrites. The winze below is suspended for a time; the lode in the bottom yields 3 tons at 1 ounce 5 dwts. The winze at Stabioli outh has been suspended and the men set to crosscut from the Morghen adit to intersect the lode at a greater depth.—Kint Concession. The tram road is laid in the Guja adit, and driving will be resumed in about a week. A winze below the Quarazza adit is going down through old workings, and will be continued to explore the lode beneath and to communicate with the Guja adit. The Lanti adit is being opened to ascertain the value of the lode in the bottom of the old workings there.—Val Toppa. The crosscut has been continued 2·60 metres at the Carboniera d'Alberto, and a division found, but no quartz. The lode is now being driven on west, but its appearance is not promising at present.—Machinery. All continues to work satisfactorily. The incline shaft is in fork to 23 metres below the 140, and the Pozzone Depauli's workings have been forked 13 metres.—W. Henwood Trelease, T. H. Messa.

WENTWORTH EXTENSION.—Report dated July 9: East crosscut driven 5 feet, length 178 feet; no change. West crosscut driven 12 feet, length 120 feet. Rock somewhat softer. Drive from prospecting shaft No. 4 advanced 20 feet, length 45 feet. Alluvial gravel about 2½ feet thick, prospecting better than last week.

THE African Gold Recovery Company (Limited) announce that 50,000 ounces of gold has been recovered at the Randt, and 7500 ounces in other districts; total, 57,500 ounces during July by means of their MacArthur-Forrest cyanide process. The June total was 58,000 ounces.

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†Athenian.....	——	——	——	Sept. 1
‡§Goth (twinsc'w)	——	Aug. 28	Sept. 1	Sept. 8
‡§Moor	——	——	——	Sept. 15

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MINING NOTES FROM JOHANNESBURG.

By H. BUSH, M.E.

Jumpers.

EAST MINE, 6th level opened, and the reef 3 feet wide, and the best ore in the mine. West Mine, reef 1 foot wide, but not so good as the East Mine. Machinery none too good and will not last many years. Life of this property about 8 years, and will pay dividends in the future, equal to what it has done during the past 12 months. Erecting sorting and stone crushers which will reduce the immediate profits. These shares cannot be considered cheap.

Geldenhuis Deep

will not mill for 12 months. The mine looks well and is well developed.

Glencairn.

There are now 20,000 tons of tailings on hand, and the returns for next month should be better. The shaft and winzes are down sufficient for opening up another level, and this will in a few weeks time give more ore at very slight extra cost.

Champ d'Or Deep.

It is stated here that the gold fields do not want to start crushing for six months, but they could start the mill in one month. There are also rumours of reconstruction and amalgamation with the Champ d'Or.

Knight's

are getting fairly good pinnings from a 5 feet reef, and will probably mill about 7 dwts.

Mulder's Farm

is being proved more valuable every week by the outcrop mines turning out so well. The shares have risen from 2s. to 3s. 6d., and are still cheap.

George Goch.

The prospects of this mine have improved very much. The new cyanide plant is working well, and results compare favourably with any mine on the Rand; excepting Langlaagte Block B this is the cheapest cyaniding (3s. 6d.) on the field. With the improvements now showing on the plates it is expected that there will be a profit of over £3000, and from the mill and cyanide there will be an increase of 300 ounces for this month. All the ore at present that is sent to the 50 stamps is being won from the eastern section of the mine, as the western section is closed down, and the manager is erecting a much larger head gear for the future working of the mine. The battery is working well, and it is said that the debt of the company, which was in the near neighbourhood of £40,000, previous to the directors raising £70,000 for working and other expenses, is to be paid off in a few months. Since the present manager took charge he has effected a saving in expenses of over £2200 a month.

Spes Bona.

From the excellent prospects of George Goch and Wolhuter, between which properties this mine is situated, I am convinced that when the battery starts again the returns will be good and profits large. The new strike at the 400 feet level will not require so much development. These shares should be a good purchase, if reconstruction is arranged on a satisfactory basis.

Treasury.

The south reef is worked out; they are now milling from their reserves. This will keep the mill going for a few months. There is no middle reef in this property, and the main reef is very poor. It is doubtful if it can be made payable. There are a few inches of reef on the footwall that will mill 7 dwts., and if development proves this continuous, it will give a longer lease of life, but it is most unlikely for this leader to prove continuous. The block of claims this company owns near Jumpers is very valuable, and they have the three reefs that are opened up in the Jumpers, which are highly payable, and those alone should make this small company worth nearly its market value. Have started to work by sinking two shafts, and it may be expected that they will start milling before 12 months, and the returns may be expected to be equally as good from this block as the Jumpers.

Orion.

The profit of over £4000 per month can be easily maintained for many years to come. There is 12 months' ore in sight; this ore is of the same grade as has been milled the past few months. The roofs dip at an angle of 10°, and are highly pyritical. The tailings assay over an ounce to the ton, and the free gold is equal to 7 dwts. There is a little copper in the ore, and this accounts for the residue being so high—3½ dwts. The richest ore as yet discovered on the mine is on the boundary of Mulder's farm, and there is no doubt the amalgamation with Mulder's would be to the advantage of both companies. The ground to the west has been prospected, and about seven claims from the battery another shoot of gold has been discovered, giving very satisfactory pannings, but there are hundreds of feet of reef on this property that would not pay to work. The shareholders will get dividends equal to the value of their shares, and the chances are that there will be several shoots of gold discovered that will enable the company to pay dividends for many years to come.

BRITISH GUIANA GOLD INDUSTRY.—The amount of gold entered at the Custom House, Demerara, on the 11th July, for shipment by the R.M.S. *Solent* which sailed on the 12th inst., was 3983 ounces 4 dwts. 9 grains to the value of $70,807, a decrease in the previous shipment of 5362 ounces 5 dwts. 10 grains to the value of $95,305. With this addition the total output for the year amounts to 62,970 ounces 15 dwts. 23 grains to the value of $1,106,333·63. The following is the return of gold entered at the office of the Department of Mines, Demerara, for the week ending 7th July, 1894, and the amounts of royalty paid thereon:—

	Amounts. Ozs.	dwts.	grs.		Royalty. $	c.
Barima	295	5	7	....	265	73
Barama	39	15	3	....	35	78
Cuyuni	414	17	10	....	373	38
Groete Creek	15	8	21	....	13	90
Puruni	25	10	22	....	22	99
Mazaruni	249	10	19	....	224	58
Conawarook	899	11	12	....	809	62
Potaro	497	7	4	....	447	60
Total	2437	7	2	....	2193	58

For the week ending July 14th:—

	Amounts. Ozs.	dwts.	grs		Royalty. $	c.
Barima	651	14	16	....	586	55
Barama	171	16	21	....	154	65
Groete Creek	2	2	12	....	1	91
Cuyuni	403	9	7	....	363	09
Conawarook	175	18	15	....	158	33
Essequebo	4	0	9	....	3	62
Potaro	216	17	9	....	195	19
Total	1625	19	17	....	1463	34

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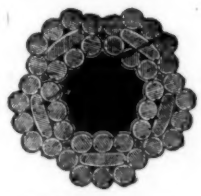

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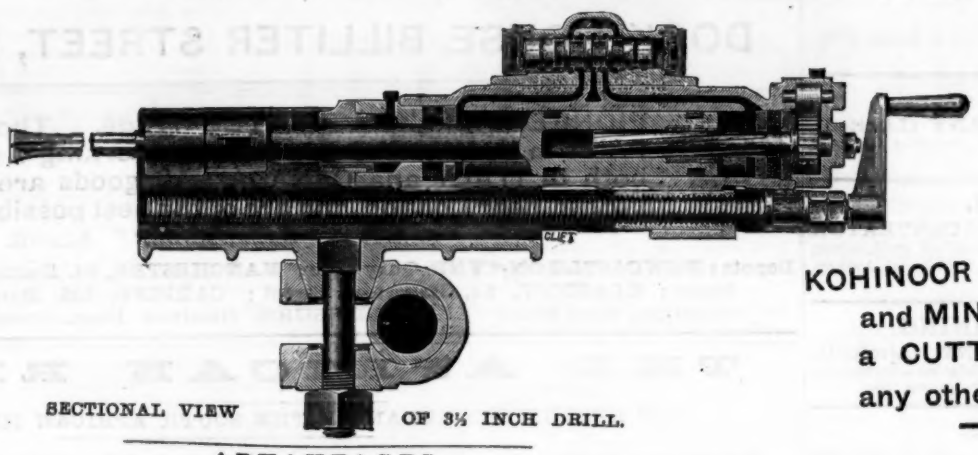

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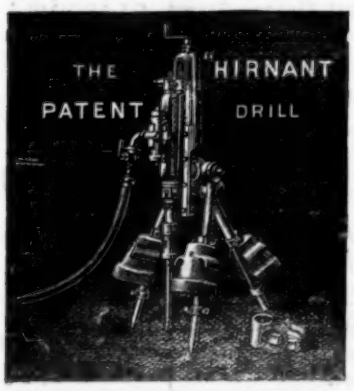

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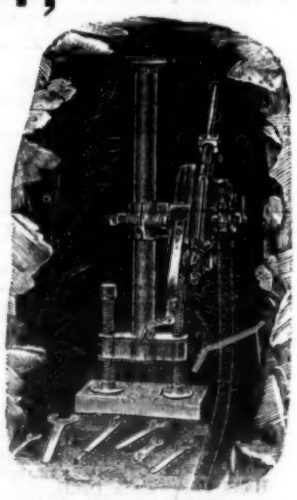

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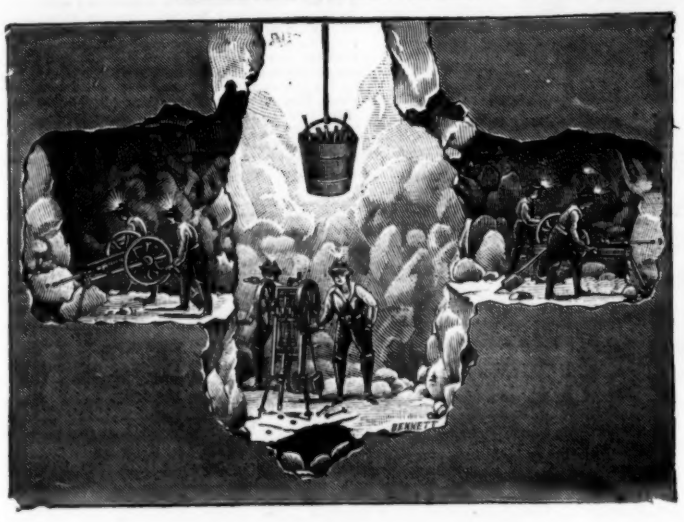

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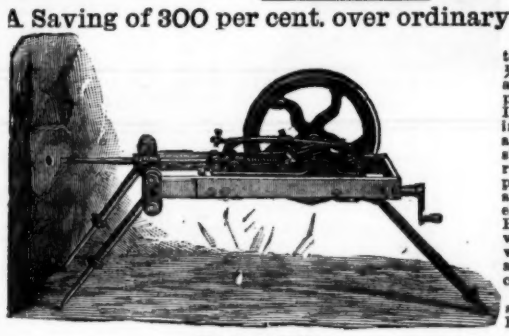

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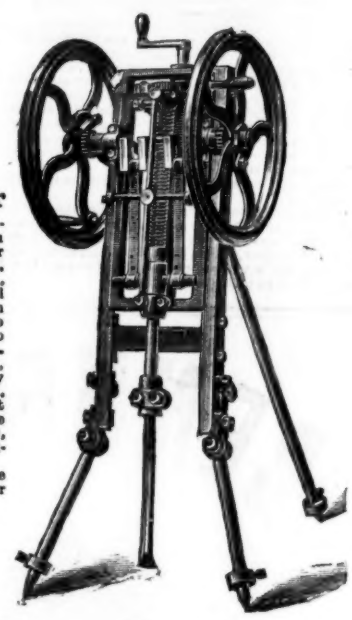

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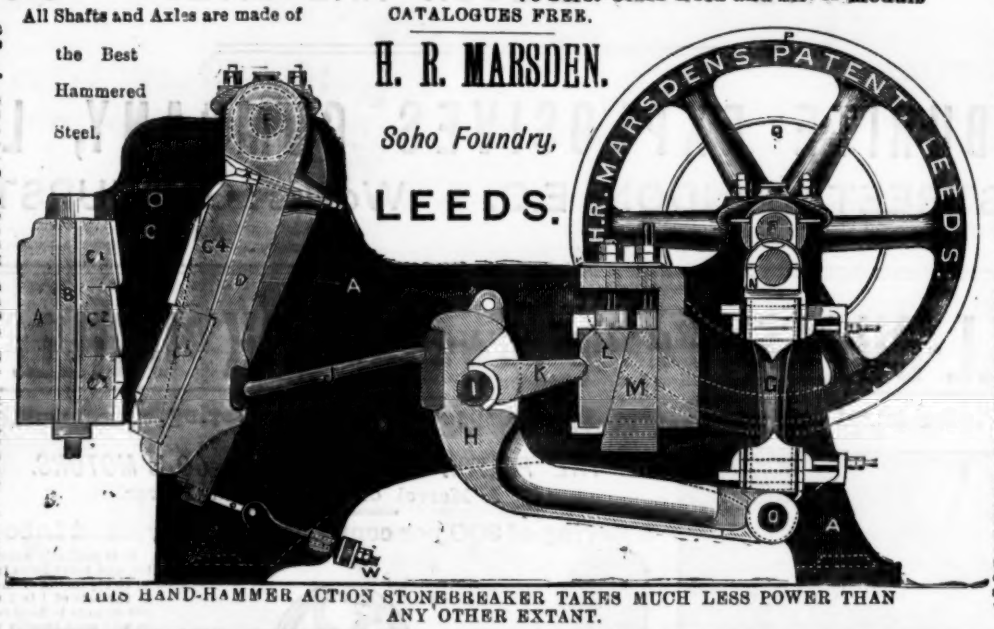

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"We have great pleasure in testifying to the efficiency of the 15 in. by 8 in Lever Hand Hammer Motion Stone Breaker you supplied us with. We find that our 4 h-p. Engine with ease drives it 250 revolutions per minute, and breaks six tons per hour of the hardest "Diorite" Whinstone: the sample is much before any hand-broken we have ever got down. Our Mr. P. J. GRAHAM, C.E., who was Surveyor of Highways for ten years, before joining our firm, says: It is by far the most economical machine he ever had to do with; he had two of your former make, and two of another firm's make; compared with these four machines your new patent gives the following advantages:—The horse-power required to drive is exactly 40 per cent. less. The sample of the broken macadam is so far superior to that broken by other machines, and even to that broken by hand that we can make no comparison. It is by far the best sample we have ever seen."

"I now order three of your Stone Crushers, size 15 by 10, to be of your very best construction, and to include two extra sets of Jaws and Cheeks for each. The last two 24×13 machines you sent me, which are at work in this colony, are doing very well. You will soon find that the railway contractors will adopt your machines in preference to the colonial ones—two of which I have. I know other contractors have had as many as nine of them, which have not given very good satisfaction. Once they know of yours thoroughly, I believe you will do a good trade with the colonies. For reference of the high character of your constructions you can refer to me as having used them with the very best results, both in New Zealand and this colony, and much prefer them to the colonial article, both in point of construction and less liability to go out of order. The material we are crushing is very hard blue stone, for railway ballast purposes. Push on with the order as quickly as possible. I do not think it necessary to have any engineering inspection. I have brought your machines prominently under the notice of all large contractors in this colony, likewise the Government. Many of the contractors have spoken to me in reference to their capabilities, and I could only tell them that they are by far and away the best and most economical I ever used. The very fact of me having purchased seven from you at various intervals and various sizes, and two above 12 years ago, and having tried all the other makers is sufficient guarantee of the capabilities and the working of your machines. Yours in every way surpass all others."

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JOSEPH AIRD

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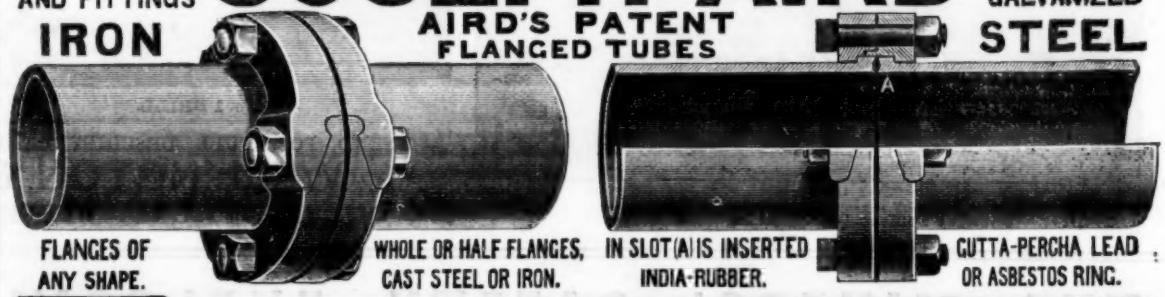

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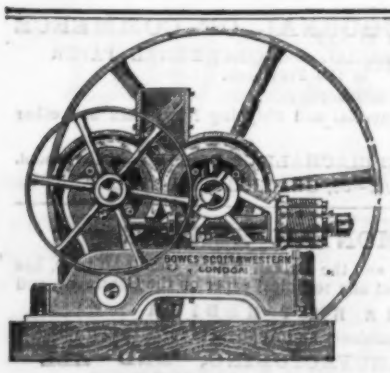

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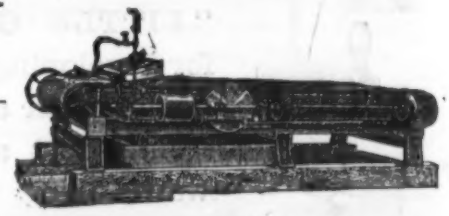

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